Operating Instructions

Visualization system
ELTEX CONNECTED CONTROL ECC

Type ECC / ECC_G / ECC_S

BA-en-9060-2211

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Dear customer

The Eltex Connected Control ECC is a multifunctional control unit for the operation, visualization, parameterization and monitoring of supported end devices. It assumes the central role for controlling the entire fieldbus network and monitors the devices connected to it.

This integrated monitoring function shows the operator the entire status of the network at one glance and grants permanent control over all end devices. Settings are available for individual devices or for overlapping groups.

Please read the operating instructions carefully before commissioning the device. This way you avoid dangers to persons and property.

Should you have any questions, comments or suggestions for improvement, please call us. We welcome every exchange with the users of our products.

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1. Device overview

The ELTEX CONNECTED CONTROL ECC can be individually configured for use in a wide range of applications. A wide range of variants are available for optimum use of the functionalities.

The ECC is provided as a pre-assembled control unit or as software.

Configuration options ECC/_ _ :

EG   built-in version + 7" widescreen

EH   built-in version + 12.1" widescreen

GGO housing with stand + 7" widescreen
RCD housing with stand + 7" widescreen and 24 V DC power supply unit

GHO housing with stand + 12.1" widescreen
GHM housing with stand + 12.1" widescreen and 24 V DC power supply unit

NGO housing without stand + 7" widescreen
NGM housing without stand + 7" widescreen and 24 V DC power supply unit

NHO housing without stand + 12.1" widescreen
NHM housing without stand + 12.1" widescreen and 24 V DC power supply unit

SE   software + CAN bus card with PCI Express® interface

SP   software + CAN bus card with PCI interface

SU   software + CAN bus card with USB interface

The ECC/E, ECC/G and ECC/N versions are available in two sizes, 7"W and 12.1"W; for dimensions see chapter "Dimensions".
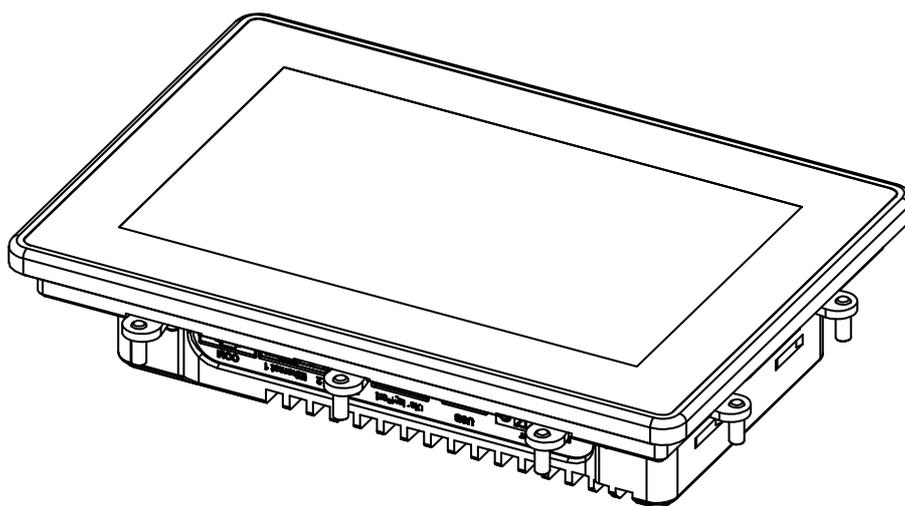

Fig. 1:
Control unit
ELTEX
CONNECTED
CONTROL
ECC

Z-117839y_3

BA-en-9060-2211_ECC

2. Safety

The devices have been designed, built and tested in accordance with the latest state of the art, and left the factory in perfect condition in terms of safety. Nevertheless, the devices may pose a risk to persons and property if they are operated improperly. Therefore, the operating instructions must be read in its entirety and the safety instructions be observed.

For warranty conditions, please refer to the General Terms and Conditions (GTC), see www.eltex.de.

2.1 Hazards marking

The operating instructions use the following symbols to draw attention to possible dangers when using the equipment:

Warning!
This symbol in the operating instructions indicates actions which, if performed incorrectly, may endanger life and limb of persons.

Attention!
This symbol is used in the operating instructions to identify all actions that may pose a danger to property.

2.2 Technical progress

The manufacturer reserves the right to adapt technical data to developmental progress without special notice. Eltex will be pleased to provide you with information about the topicality and any changes and additions to the operating instructions.

2.3 Intended use

The ELTEX CONNECTED CONTROL ECC is intended for the operation, visualization, parameterization and monitoring of supported end devices.

In case of inappropriate and improper use, the manufacturer declines all liability and warranty.

Conversions and modifications to the devices are not permitted.

Only original spare parts and original accessories may be used.

Please observe further device-specific information in the operating instructions supplied with each connected end device.

2.4 Work and operational safety

Warning!

Please observe the following instructions and chapter 2 "Safety", page 7 in their entirety and precisely!

Always observe the regulations for electrical equipment applicable in your country.

- Before installing, rectifying operating faults and performing cleaning and maintenance work on the units and the associated components, the power supply must be disconnected (see chapter 3 "Assembly", page 10, chapter 5 "Troubleshooting", page 49).
- During any and all work, the machine on which the devices are installed must not be in operation (see chapter 3 "Assembly", page 10, chapter 5 "Troubleshooting", page 49).
- All work on the devices may only be performed by qualified electricians (see chapter 3 "Assembly", page 10, chapter 5 "Troubleshooting", page 49, chapter 10 "Battery change / decommissioning", page 63).
- Always use shielded cables for the interface cables; the shields must be applied to both ends.
- All connected devices as well as the electrical lines and cables must be checked for damage at regular intervals.
  If there is any damage, it must be repaired before commencing operation of the devices, or the devices must be taken out of operation.
- The IP65 protection class for the ECC/E variant only applies when the front cover is closed and correctly installed (see chapter 3.2 "ECC built-in version", page 14).
- Protect devices from moisture and humidity.
- Protect devices from excessively hot or cold temperatures (see chapter 7 "Technical data ECC", page 51).
- Protect devices from open flames and fire.
- Do not paint or varnish the devices.
- Do not modify or disassemble the devices.
- Store devices dust-free and dry.
- The generally applicable standards of the CiA303-1 specification must be observed when setting up the CAN network (see chapter 3.1 "CAN network structure", page 10).
- When connecting the D-Sub connector to the ECC control unit or to the CAN bus card, make sure that the optional voltage supply is not connected to the socket (see chapter 3.1 "CAN network structure", page 10, chapter 3.2 "ECC built-in version", page 14, chapter 3.3 "PC version", page 16).

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- When installing the ECC control unit, make sure that all connections are correct; check them before switching on (see chapter 3.2 "ECC built-in version", page 14, chapter 3.4 "Housing version", page 17).
- During the installation of the ECC control unit into the prepared cutout, ensure that the cables are not crushed (see chapter 3.2 "ECC built-in version", page 14).
- To avoid damage to the glass surface or the touch screen, please avoid using any pointed objects or exerting any force when operating the ECC control unit (see chapter 3.2 "ECC built-in version", page 14, chapter 3.4 "Housing version", page 17, chapter 4 "Operation", page 20).
- Before installing the ECC control unit and the IXXAT VCI driver, remove all CAN bus cards connected to the computer (see chapter 3.3 "PC version", page 16).
- When using PCI Express® or PCI cards, turn off the PC before opening the housing and disconnect the supply voltage (see chapter 3.3 "PC version", page 16).
- Before connecting the individual connecting lines, make sure that the corresponding line is de-energized (see chapter 3.4 "Housing version", page 17).
- Before disassembling the ECC control unit, switch it off and remove all connectors and cables (see chapter 10 "Battery change / decommissioning", page 63).

Please observe further device-specific information in the operating instructions supplied with each connected end device.

3. Assembly

Warning!
Risk of electric shock!
- Before performing any maintenance and repair work, switch off the devices and disconnect the supply voltage.
- The machine on which the devices are installed must not be in operation.
- Repair and maintenance work must be performed by qualified electricians only.

3.1 CAN network structure

Attention!
The generally applicable standards of the CiA303-1 specification must be observed when setting up the CAN network. Otherwise a safe communication of all participants within the network cannot be guaranteed. The total cable length of the network must not exceed 500 m and the stubs to each device must be as short as possible; a maximum length of 0.5 m for the individual stubs is recommended. For the best possible transmission of the signals, use shielded cables ready for CAN bus.

To wire the network, the individual end devices must be connected in a linear structure. Devices with two separate CAN connections can be used directly for the connection. If only one connection is available, a T-distributor is required.

For devices without a separate voltage supply connection, the 24 V DC must be supplied to the network bus cable via a separate power supply unit.

For further information on connecting the individual supported Eltex end devices, please refer to the operating instructions of the respective device.

Generally, two different connector types are used throughout the network topology:
- nine-pin D-Sub connectors and
- five-pin M12 round connectors

each either as a socket or as a plug. When connecting the individual end devices, the respective pin assignment of the connector must be observed.

When connecting the D-Sub connector, ensure that the contacts 6 and 9 (optional voltage supply of the CANopen® network) are not occupied. Eltex recommends using the D-Sub, M12 adapter included in the scope of delivery, reference number 114858.
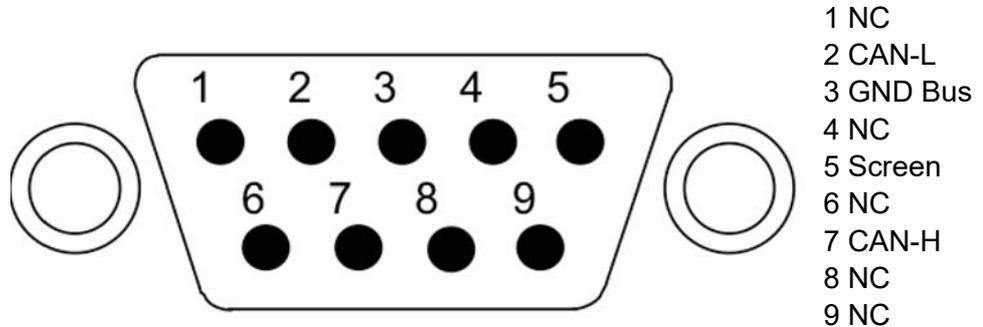
Fig. 2:
D-Sub connector
plug arrangement
Connectors

1 NC
2 CAN-L
3 GND Bus
4 NC
5 Screen
6 NC
7 CAN-H
8 NC
9 NC

F00064y
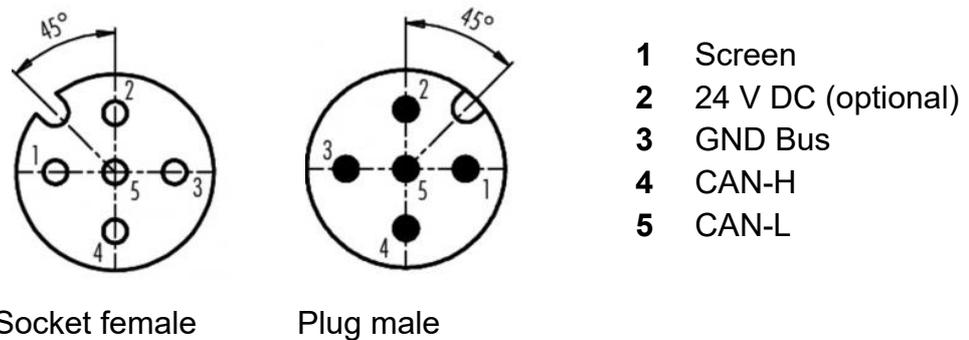
Fig. 3:
Connector plug
arrangement of
M12 round plug
connector

Socket female   Plug male

1   Screen
2   24 V DC (optional)
3   GND Bus
4   CAN-H
5   CAN-L

F00052y + F00053y

Two possible connection examples are shown on the following pages:
- for devices with separate connection of the power supply and
- for devices in which the 24 V DC must be fed into the bus cable of the network via a separate power supply unit.

Warning!
If a ground monitoring systems of the TERRA-SD or TERRA-SE series are used in the CANopen® network, the CANopen® baud rate must be adjusted to 50 kBit/s. For setting the CANopen® baud rate, observe chapter 4.6.5 Settings.

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CAN network with charging generator POWER CHARGER PC
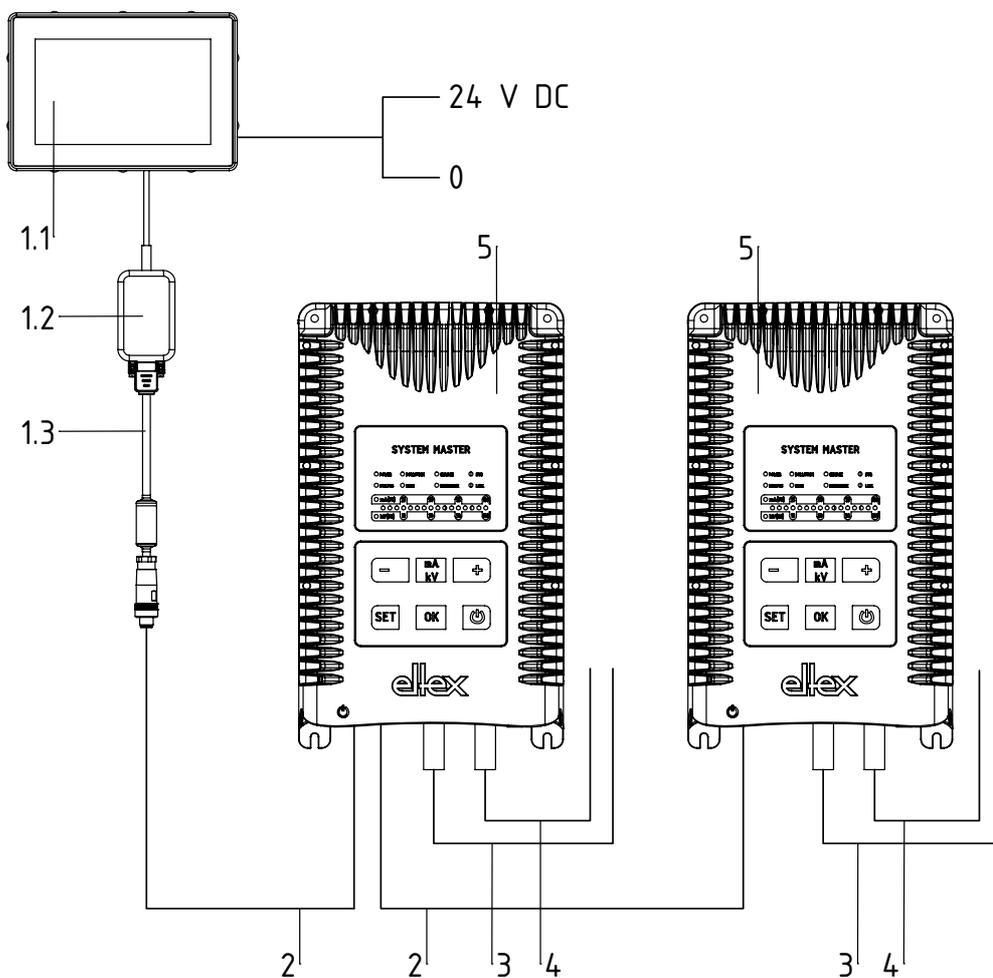
*Fig. 4:
Connection
example
Charging
generator POWER
CHARGER PC*

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1.1 Eltex Connected Control ECC
1.2 PC / CAN-Interface, USB-to-CAN, 115007*
1.3 Adapter, D-Sub-socket, M12-plug, 114858*
2 Interface cable Fieldbus CANopen®
   Plug / socket straight CS/CFMG_ _ _ _*
3 Release Charging CS/AMO _ _ _ _*
4 Release Discharging CS/EMO _ _ _ _*
5 POWER CHARGER PC   *reference number

To connect another POWER CHARGER PC (5), an interface cable (2), a
release charging cable (3) and a release discharging cable(4) are also
required.

24 V DC supply with Smart Discharging System SDS
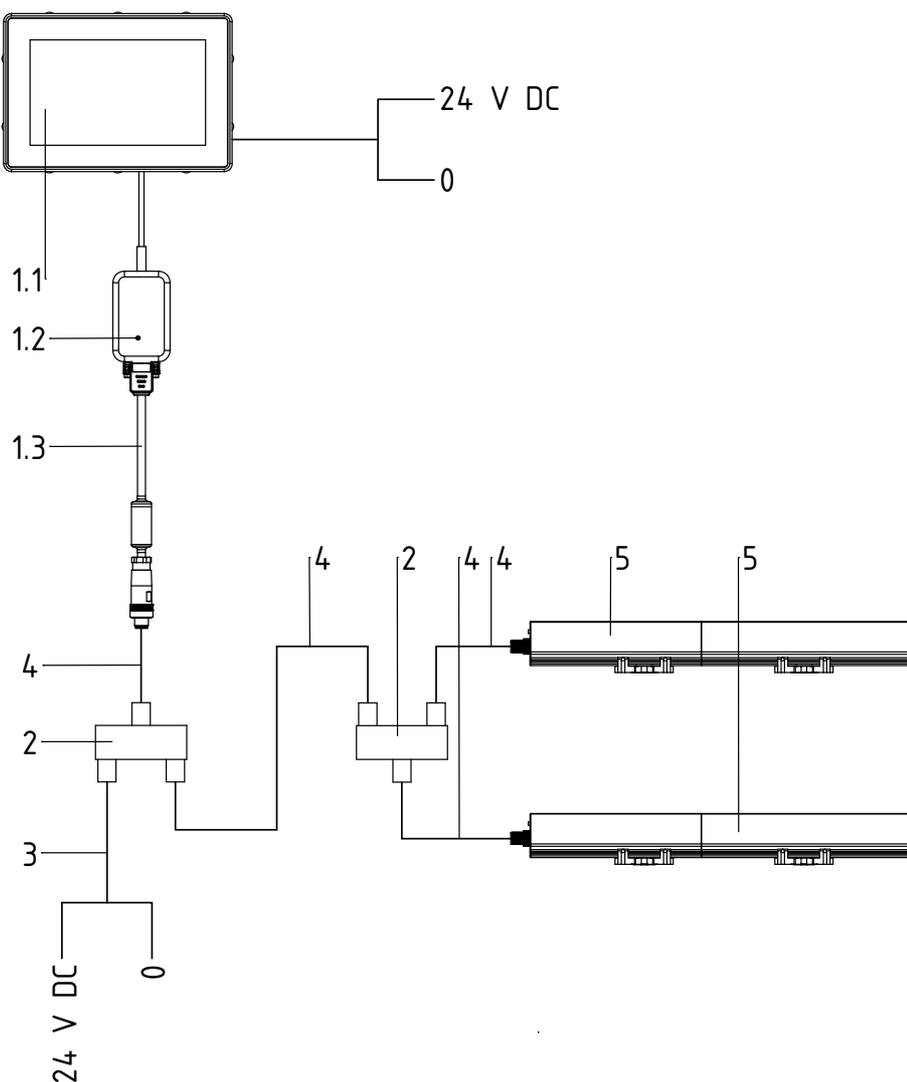
Fig. 5:
Connection
example
Discharging bar
SDS

Z-117513ay_2

1.1 Eltex Connected Control ECC
1.2 PC / CAN-Interface, USB-to-CAN, 115007*
1.3 Adapter, D-Sub-socket, M12-plug, 114858*
2   T-distributor M12, 5-pin, shielded, 114854*
3   Interface cable Fieldbus CANopen®
     plug / open end, CS/CFO_ _ _*
     Core color: 2: red, 24 V DC, 3: black, GND Bus
4   Interface cable Fieldbus CANopen®
     plug / socket straight, CS/CFM_ _ _*
5   Smart Discharging System SDS/_ _ _*   *reference number

To connect a further SDS bar (5), an additional T-connector (2) and two
interface cables (4) are required.

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3.2 ECC built-in version

Attention!
- When installing the ECC control unit, make sure that all connections are correct; check before switching the unit on.
- During the installation of the ECC control unit into the prepared cutout, ensure that the cables are not crushed.
- To avoid damage to the glass surface or the touch screen, please avoid using any pointed objects or exerting any force when operating the ECC control unit.

To operate the entire network with the built-in version of the ECC, the following connections must be installed one after the other:

- **CAN bus connection**
  Connect the PC / CAN interface (1.2) on the one hand to a USB interface of the ECC (1.1) and on the other hand to the D-Sub socket of the adapter (1.3). Then plug the M12 connector of the adapter (1.3) into the M12 socket of the CAN bus line (2), see Fig. 4.

- **Voltage supply with ground terminal**
  The three-pin terminal strip must be equipped with connections for +24 V DC, 0 V and PE.

Insert the ECC control unit into the cutout, fold out the retaining clips and fasten with the threaded bolts.

After switching on the supply voltage, the ECC control unit is ready for operation; the application starts automatically.

When connecting the D-Sub connector to the ECC control unit or to the CAN bus card, make sure that the optional voltage supply is not connected to the socket. Eltex recommends using the D-Sub, M12 adapter included in the scope of delivery.

Please observe further device-specific information in the operating instructions supplied with each connected end device.

3.2.1   ECC built-in version pin assignments

3.2.1.1 ECC/EG (7"W) pin assignment
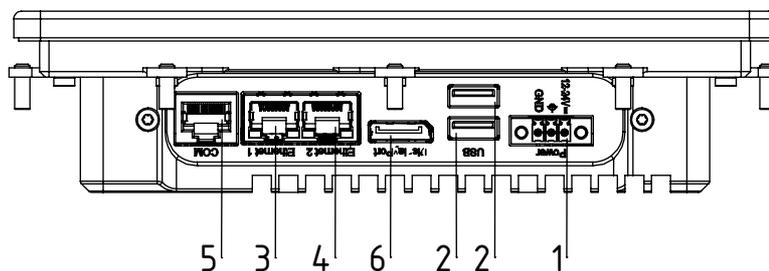
Fig. 6:
Connections
ECC/EG

1 *12 - 24 V DC supply*
2 *USB 1 and 2*
3 *LAN 1*
4 *LAN 2*
5 *COM, serial interface*
6 *DVI, display connection*

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3.2.1.2 ECC/EH (12.1"W) pin assignment
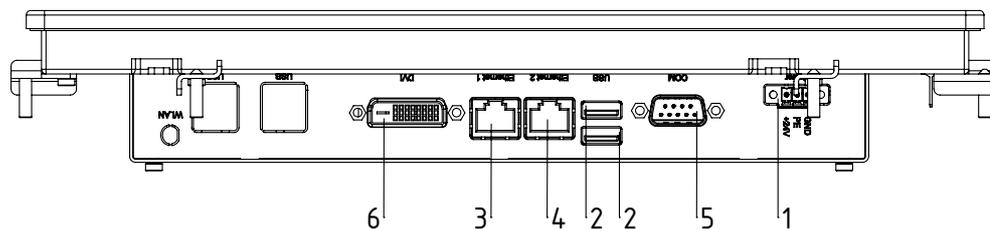
Fig. 7:
Connections
ECC/EH

1 *12 . 24 V DC supply*
2 *USB 1 and 2*
3 *LAN 1*
4 *LAN 2*
5 *COM, serial interface*
6 *DVI, display connection*

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3.3 PC version

Necessary components for installing the ECC on a PC:

System requirements:
- Windows 7, 8, 8.1, 10 (32 bit / 64 bit)
- 200 MB free hard disc space
- Free USB port, PCI Express® or PCI slot for CAN bus card
- Local administrator rights
- ECC license key

Procedure:
- Before installing the ECC software and the IXXAT VCI driver, remove all CAN bus cards connected to the computer.
- When using PCI Express® or PCI cards, turn off the PC and disconnect the supply voltage before opening the housing.
- Install the ECC setup from the supplied CD. To do so, open the file "ECC_Vx_x_x.0.exe" and perform the installation steps one after the other.
- After successfully completing the installation, install the IXXAT VCI driver. The setup for the driver is included on the CD in the file "vci-4_x_xxx_x.exe".
- Start the installation and work through the individual steps. When selecting the components to be installed, use the default configuration.
- During the installation process, the system asks several times whether the driver should be installed for the respective hardware. Always confirm this prompt.
- When the installation is complete, restart the computer.
- After shutdown, the previously removed bus cards can be reconnected. The PC is ready to use the ECC once it is restarted.
- To start the ECC, use the matching desktop shortcut or execute the file "ECC.exe" in the installation path.
- On first start, the ECC license key is required. It can be found with the respective hardware ID on a label included in the ECC scope of delivery. The license key is linked to the serial number of the CAN bus card as unique identification. Check by comparing the hardware ID (shown in the input mask) with the license key ID to be entered, enter the license key, confirm and wait for the application to start. The entered license key is always stored, so there is no need to re-enter it for the next starts.

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When connecting the D-Sub connector to the ECC control unit or to the CAN bus card, make sure that the optional voltage supply is not connected to the socket. Eltex recommends using the D-Sub, M12 adapter included in the scope of delivery.

Please observe further device-specific information in the operating instructions supplied with each connected end device.

3.4 Housing version

Attention!
- Before connecting the individual connecting lines, make sure that the corresponding line is de-energized.
- When connecting the ECC housing version, make sure that all connections are correct; check them before switching on.
- To avoid damage to the glass surface or the touch screen, please avoid using any pointed objects or exerting any force when operating the ECC control unit.

To operate the entire network with the housing version of the ECC, the following connections must be installed one after the other:

- **CAN bus connection**
  Connect the PC / CAN interface (1.2) on the one hand to a USB interface of the ECC (1.1) and on the other hand to the D-Sub socket of the adapter (1.3). Then plug the M12 connector of the adapter (1.3) into the M12 socket of the CAN bus line (2), see Fig. 4.

- **Voltage supply with ground terminal**
Depending on the ECC housing version (with or without integrated power supply unit), the connections for 24 V DC and 0 V (ECC/_ _O) or L and N (ECC/_ _M) and the ground terminal must be connected to the respective terminal connection.

After switching on the supply voltage, the ECC control unit is ready for operation; the application starts automatically.

Please observe further device-specific information in the operating instructions supplied with each connected end device.

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3.4.1 ECC housing version pin assignments

The following chapters describe the pin assignment of the terminal clamps of the corresponding variant. The connections are numbered from left to right.

3.4.1.1 ECC/G_O; ECC/N_O pin assignment
(housing version without power supply unit)

Connection	Labeling	Connecting line	
1	1	+24 V DC	Voltage supply input
2	2	0 V	
3	PE	PE	
4	+	+24 V DC	
5	+	+24 V DC	
6	-	0 V	
7	-	0 V	
8	PE	PE	

3.4.1.2 ECC/G_M, ECC/N_M pin assignment
(housing version with power supply unit)

Connection	Labeling	Connecting line	
1	1	L	Voltage supply input
2	2	N	
3	PE	PE	
4	+	+24 V DC	
5	+	+24 V DC	
6	-	0 V	
7	-	0 V	
8	PE	PE	

3.5 Use of Eltex CS signal cables

When using the CS signal cables, which are available as an option by Eltex, the following data, color markings and bending radii must be observed for the connection of the individual cables.

Available cable variants®

CS/C CANopen® signal cable

- CS/CFFG
  Connection 1: Socket straight
  Connection 2: Socket straight

- CS/CFFW
  Connection 1: Socket straight
  Connection 2: Socket angled

- CS/CFMG
  Connection 1: Socket straight
  Connection 2: Plug straight

- CS/CFMW
  Connection 1: Socket straight
  Connection 2: Plug angled

- CS/CFO
  Connection 1: Socket straight
  Connection 2: open end

- CS/CMFG
  Connection 1: Plug straight
  Connection 2: Socket straight

- CS/CMFW
  Connection 1: Plug straight
  Connection 2: Socket angled

Cable assignment for open end connection

Core color	Signal
Red	+24 V DC
Black	GND Bus
Blue	CAN-H
White	CAN-L
Screen	Ground potential

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4. Operation

To avoid damage to the glass surface or the touch screen, please avoid using any pointed objects or exerting any force when operating the ECC control unit.

4.1 Commissioning

By default, the Eltex Connected Control is delivered without any configuration for the individual machine or function group and the connected devices.
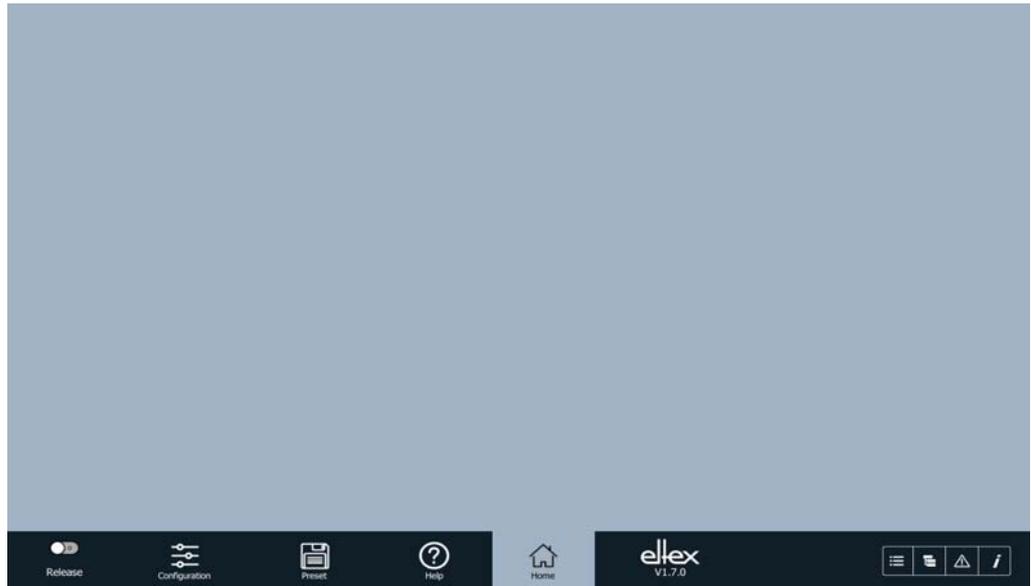
Fig. 8:
Home screen

The following steps are required after the device has been delivered so that the Eltex Connected Control can be used with the connected devices.

- Machine group configuration

To configure the machine group, first select "Configuration" in the lower task bar and then "Organization". Confirm the possible password prompt with the respective password.

Use the "New" button to open the input mask for creating a new machine group, enter the respective name and then confirm. Wait for confirmation and confirm this as well.

A function group with the same name is simultaneously created for the machine group. Use the functions in the lower section of the mask to edit the function group.

- Connecting the device

Connect the respective device for control and visualization via the ECC to the CAN network and switch on the voltage supply.

- Integrating the device in ECC

In order to integrate the device into the ECC screen and control it from there, the "Devices" button in "Configuration" must be pressed. The new device appears in the select list with product name and a number. Select device and continue with "Configure".

Fig. 10:
Configure devices

In the next screen, a name and the device address may now be entered. Confirm the entered values by clicking OK. After confirmation, the device will now be successfully integrated.
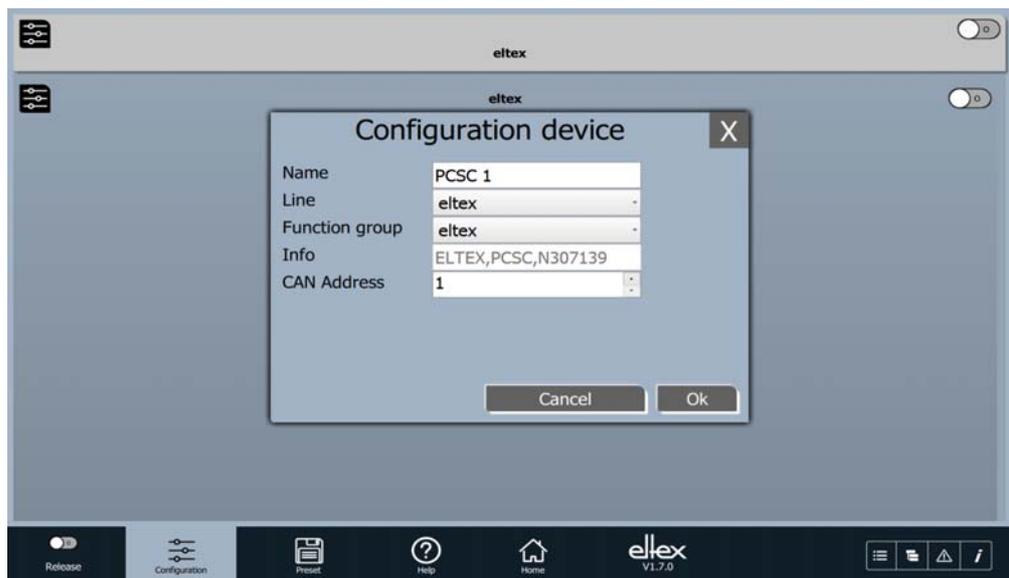
Fig. 11:
Configuration of the device

To enter further machine or function groups and integrate individual devices, repeat the steps described above.

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Fig. 12:
End of commis-
sioning

4.2 Main page

After starting, a home screen opens; after successfully loading, the main page appears. In this central overview, all connected devices are displayed in their respective states. Further screens for operation, configuration and editing the presets are available.

For the sake of clarity, all end devices can be freely assigned to the individual groups and named individually. The assignment takes place on two levels: the superordinate machine group (9, 10) and the function group (17, 19, 21, 23).

Fig. 13:
Main screen over-
view

Listed below are brief descriptions of the various elements of an exemplary screen setting and view. A detailed description of the individual elements can be found further below, see chapter 4.3.

1. Global release

Set the global release for all connected end devices.
For further information, see release management, chapter 4.4.

2. Configuration

Opens the screen for editing the configuration.
For further information, see configuration, chapter 4.6.

3. Presets

Opens the screen for editing the presets.
For further information, see presets, chapter 4.7.

4. Help

Opens the operating instructions of the ECC or, if the device screen is open, those of the corresponding device type.

5. Main page

Switches to the main page

6. List view

Opens the main page with collapsed machine groups.

7. Tree view

Opens the main page with expanded machine groups.

8. Error screen

Opens the error screen.
For further information, see error screen, chapter 4.8.

9. Information screen

Display of current information of the system

10. Machine group

Machine group is shown as an expanded group view.

11. Machine group

Machine group is shown as a collapsed group view.

12. Machine group global parameter mask

Opens the screen for editing the global parameters of the machine group.

13. Function group global parameter mask

Opens the screen for editing the global parameters of the function group.

14. Machine group release

Set the global release for all connected end devices in this machine group. For further information, see release management, chapter 4.4.

15. Function group release

Set the global release for all connected end devices in this function group.
For further information, see release management, chapter 4.4.

16. Device release

Set the release for the respective device.
For further information, see release management, chapter 4.4.

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17. Device tile

Tile for viewing the device status.
Pressing the device tile opens the corresponding device screen with further detailed information; see device screen, chapter 4.3. Here, the display of the actual value can be configured individually for each device; see highlight values, chapter 4.6.6.

18. Device function

Display of the status of the respective device function.
Press to directly open the parameter view of the displayed device function.

19. Function group

A device in the function group is in a defective condition.

20. Device button

Device is in a defective condition.
By clicking on the button the respective device screen opens; see device screen, chapter 4.3.

4.3 Device screen

The device screen is the central screen for displaying the device status, actual values, parameter settings, general device information and any error or warning messages that may have occurred for the respective device.

For the sake of clarity, the window is divided into several sections, which are displayed depending on the selection. The following screens are available:

- Device screen status
  Overview page and display of selected actual values

- Device screen parameter
  Display of the parameter set for setting and operating the device

- Device screen actual values
  Display of the individual actual values

- Device screen general
  General information about the device

- Device screen error
  List of the current error or warning messages for the device.

The color-coded device name represents the current state of the device. The "Save" button is used to store the current parameter set in the internal memory of the respective device. For resetting and restarting the device, the button "Restart" and the following prompt must be confirmed. The release of the individual device can be controlled via the slide switch.

To close the window, press the "X" in the upper right corner

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4.3.1 Device screen status

Fig. 14:
Device screen
Status

Standard screen that opens after pressing a device tile or a device button.

Display the freely configurable actual values of the device. These values can be set using the item highlight values in the configuration.

4.3.2 Device screen parameter

Fig. 15:
Device screen
Parameters

View all parameters that are readable with the current access level. The values for each parameter can be changed using the slide switches or the select lists. Click "Ok" to set the new parameter value. If the current access permission is not sufficient to write the parameter, the password prompt opens automatically. Enter and confirm the respective password. Likewise, the entire parameter set can be changed by pressing the "Change all" button. This changes and transfers all parameters that are writable with the current access permission.

4.3.3 Device screen actual values

Fig. 16:
Device screen
Actual values

View all displayable actual values that are readable with the current access level.

4.3.4 Device screen general

View general device information.

4.3.5 Device screen error

View the error or warning messages that have occurred for the device. This screen is only available once a message has occurred. Click on the device name or the attention sign next to it to open the screen. Selecting the error opens another screen with more information from the respective message. See "Error screen", chapter 4.8, for a more detailed description.

4.4 Release management

There are a total of four levels for releasing the respective device. To release the respective device, all four must be set.

The following release levels are available:
- Global release
  Control the release of all devices connected to the application
- Machine group release
  Release of the devices configured in this machine group
- Function group release
  Release of the devices configured in this function group
- Device release
  release of the respective device

All releases can be set or deleted separately. For each release, an individual permission for access via the access management can be set. As soon as the device reports its active condition, the background color of the corresponding sharing switch changes. This condition is then transmitted to the superimposed releases and also changes the colors accordingly.

4.5 Global parameters

View the global parameter setting for the respective machine or function group. Pressing the button in the upper left corner opens the display screen of the selected machine or function group. To open the screen, the access level for the corresponding machine or function group is required.

Fig. 19:
Overview
Global parameters

The screen is divided into four sections. The transfer of the selected global parameters by the respective devices can be individually adapted and controlled. The sections are organized as follows:

1. Product group overview
All devices of the selected machine or function group are combined in the corresponding product group. A change is made by selecting the desired group.

2. Base parameter set
Selection of the parameter set which is to serve as the basis for the adoption of the global parameters. This allows for the adoption of the parameters from one device directly to another; individual manual settings are not required.

3. Device list
List of all devices of the selected product group. It is possible to activate or deactivate the adoption of the global parameters for the respective device by selecting or deselecting the individual devices.

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4. Global parameter list

Overview of the global parameter settings. To set and adopt the parameter, set the respective value and then confirm by pressing the "OK" button. The value is then directly transferred to all selected devices and set.

In the shown screen, the parameters are therefore set for the two devices "PCSC 5" and "PCSC 6". The settings of the "PCSC 5" device serve as basis for the entire parameter set.

4.6 Configuration

View the configuration of the entire application. Several differing menu items are available for the respective setting or adaptation of the application:

Fig. 20:
Overview
Configuration

- Devices
  Configure the connected devices
- Organization
  Create and manage the individual application groupings
- ECC User
  User and password management
- Access management
  Set the individual access levels for releases, actual values and parameters
- Settings
  Configure the application settings
- Highlight values
  Adjust the actual values for displaying on the device tile or status page of the device screen
- Global parameters
  Set the parameters available for the global parameter screen.
- Import
  Import the configuration
- Export
  Export the configuration

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- Factory settings
  Load the factory settings for the respective device
- Close ECC
  Closes the applicationg
- Restart ECC
  Restarts the application
- Login
  Opens a screen for user login

4.6.1   Devices

Set and configure the connected end devices. With this screen, the individual devices can be configured for the application. When connecting a new device, this configuration must always be performed again for the respective device. Newly connected and not yet configured end devices can be identified by the device name in the list. These are shown with the corresponding device name and a number (e.g. PCSC 99).

Fig. 21: Overview Devices

The device to be configured can be selected in the upper select list. The following options are available for the configuration of the device. Select one of the three options and confirm by clicking on "Ok".

- Configure
  Configure the device name and the assignment to the machine and function group. After the selection and click on the "Ok" button, the mask for setting the corresponding configuration opens.

Fig. 22:
Device configuration dialog overview

Enter the desired name and assignment. To enter text, either use the connected keyboard or click to open the input mask and enter text using the virtual keyboard. The CAN address is automatically assigned. It could be changed, but Eltex recommends always using the generated address. Confirm configuration with "OK" or cancel the process.

- Remove
  After confirmation of the prompt, the device is removed from the application.

- Replace
  Allows for the replacement of the device selected in the select list. After confirming the prompt, the device is replaced by the one in above list. This option is particularly useful if a device is removed from the network due to service work and is to be replaced by a replacement device.

4.6.2 Organization

Configuration, editing and managing of the machine and function groups

Fig. 23: Overview Organization

Three options are available for managing each group:

- **New**
  Create a new machine or function group.
  By clicking on the button an input mask is opened. Enter the name for the group and confirm with Ok or the Enter key. Then, the new group is created with the respective name.

- **Rename**
  Rename the machine or function group selected in the list.
  By clicking on the button an input mask is opened. Enter the name for the group and confirm with Ok or the Enter key. Then, the new group is renamed with the respective name.

- **Remove**
  After confirming the prompt, the machine or function group selected in the list is removed from the application. Likewise, all devices contained in this group are removed from the application. The remote devices are added to the list of not configured devices as new devices and must be re-configured.

4.6.3   ECC User

ECC user administration and the possibility to change the respective user password.

Three password levels are available:
- Viewer
  Password: 0001
- User
  Password: 2819
- Super user:
  Password: 3517

The exact permissions for each access level can be configured separately in the access management.

Fig. 24:
Overview
ECC User

To change, enter the old user password. Then, enter the new password and confirm once again. Click on "Change password" to change the password if it is entered correctly. The password to be changed is chosen automatically in the background. Only numbers are available for entering the password.

Via the button "Logout", the currently logged in user can be logged out of the ECC. After logging out, the viewer access permission is activated.

Via the button "Login", it is possible to log in as a user in the application. Enter and confirm the corresponding password in the password prompt that appears.

4.6.4 Access management

Setting the appropriate access level for the respective option. It is possible to change the permission for the release of the devices, the configured groups and the global release; also, the settings for reading and writing the actual values and the parameters of the individual devices can be set.

Fig. 25: Overview Access management

Via the select list available in the upper section of the screen, it is possible to set either the settings of the release or the individual device. After the selection, all settings available with the current access permission are displayed in the lower section. To make changes, select the appropriate level in the list and confirm with OK after all changes have been completed. The "Cancel" button discards all changes made so far.

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4.6.5 Settings

View to configure the application language and to open the help

Fig. 26:
Overview
Settings

To change the language, select the respective language from the list and confirm with OK. All display texts are now available in the newly configured display language.

Via the settings of the default access level, the access level can be configured, which is active when the ECC is started and when the user logs off.

The following settings can be made; these are then confirmed with OK.

- Display language
- Language of the application display
- Help language
- Language of help / operating instructions
- Default access level Standardzugriffslevel
- The access level that is used by default.
- Display of high voltage values
- Selection of the display format for the high voltage values
- Main view
- Setting of the main view
- Sorting
- Setting the sorting method of the display
- Function group
- Setting for activating or deactivating the display of the function groups
- Release query

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- Activation or deactivation of a query for release
- Logging cycle time
- Cycle time for logging the process data
- CANopen® baud rate
- Setting of the CANopen® baud rate. Adaptation necessary for use in connection with the TERRA-SD and TERRA-SE ground monitoring systems. For this setting, logging in with the super user password is necessary.

4.6.6   Highlight values

Set the highlight values for the respective device in the status screen of the device display and within the device tile

Fig. 27:
Overview
Highlight values

Configuration of the display.
Select the corresponding device in the upper select list. All values readable with the current access permission, for the display in the device tile and on the status screen, can be selected; press the "OK" button to confirm. The "Cancel" button discards all changes.

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4.6.7 Global parameters

Set the parameters available via the global parameter mask for the respective device

Fig. 28:
Overview
Global parameters

Select the device to be configured from the upper list. All device parameters available with the current access permission are listed. To change the configuration, select the corresponding parameters and confirm with Ok. The "Cancel" button discards all changes.

4.6.8 Factory settings

Select the device and load the factory settings for all parameters of the respective device

Fig. 29: Overview Factory settings

Select the device in the list and start loading by clicking the "Ok" button. Confirm the following prompt and wait for confirmation on the loading process.

The button "ECC factory settings" resets the ECC to default settings. This will reset all passwords, delete all presets and remove all configured devices, machine and function groups from the screen. To load the factory settings, press the button and confirm the following prompt.

4.7 Presets

Menu for managing, setting and loading presets.
Entire parameter sets can be loaded easily and quickly. This allows for a quick conversion of the entire system between two different tasks.

Fig. 30:
Overview
Presets

On the left side of the screen is an overview of the currently saved presets with the corresponding name. The preset designations are arbitrary.

The options on the right side are used to manage the presets.
The following options can be managed:

- Load
  Loads the selected preset into the respective devices. After confirming the prompt, the settings are loaded.
- New
  Create a new preset for later use. The settings are made in the window that appears afterwards.
- Edit
  Edit the selected preset to adapt it to the new settings. After confirming the following prompt, the overview for preset configuration appears.
- Delete
  Delete the preset from the overview. By confirming the prompt, the respective selection is deleted.
- Import
  Import a file with the saved presets into the application.
- Export
  Export the presets to a file for external storage or transmission to other ECC applications.

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4.7.1 New presets

This window is used to configure the new presets.
The individual presets can be set via the "Edit" option.

Fig. 31:
New presets over-
view

A free, unique name can be assigned for the preset configuration; the selection of the device for the respective preset is also made here. When selecting a machine or function group, all devices configured in the group are immediately selected. Click the "Save" button to save all presets under the entered name.

4.8 Error list

View the currently occurring error and warning messages
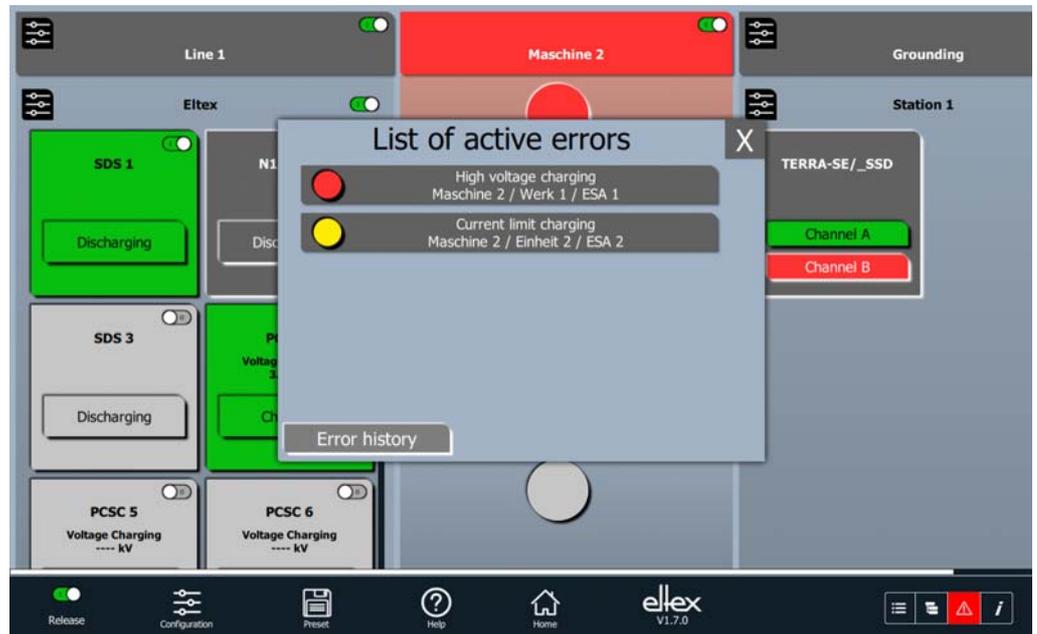
Once the corresponding message is selected, another window appears with detailed information about the cause and remedy to rectify the message.
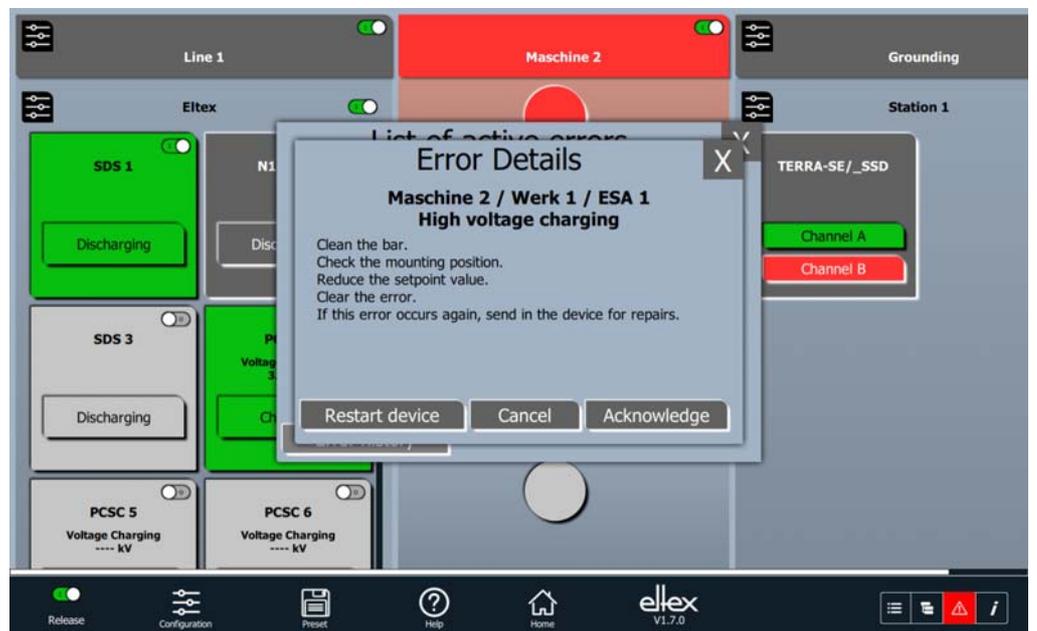
After eliminating possible causes, the message is removed by the "Acknowledge" option. If the subsequent check in the corresponding device was successful and the acknowledgement is confirmed, the message is removed from the list. If the message keeps appearing, it is recommended to restart the device; pressing the "Restart device" button restarts the device.

To view the error history in the overview list, click the "Error history" button. A complete overview with timestamp of the occurred messages and the successful acknowledgement of a message is available.

Fig. 34:
Overview
Error history

To export the entire history, click on the "Export error history" button and then select the file for exporting.

5. Troubleshooting

Warning!

Risk of electric shock!

- Before all maintenance and repair work, disconnect the supply voltage of the devices.
- The machine on which the devices are installed must not be in operation.
- Repair and maintenance work must be performed by qualified electricians only.

Fault	Cause	Remedy
Screen of ECC control unit is dark	Voltage supply error of ECC control unit	• Check 24 V DC power supply unit. • Restore voltage supply.
Touch screen does not respond to actuation	Dirt on the screen	Clean screen with a solvent suitable for glass surfaces.
CAN bus communication defective	CAN network installed incorrectly	• Check correct wiring of the entire network. • Check connection of the required terminating resistors.

For possible device-specific error messages, further information can be found in the operating instructions of the respective device. Please use these to correct the error messages of the individual device.

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6. Maintenance

The ECC control unit requires no special maintenance.

The touch screen can be cleaned with standard cleaning agents for LCD screens (IT equipment).

To avoid damage to the glass surface or the touch screen, please avoid using any pointed objects or exerting any force when operating the ECC control unit.

7. Technical data ECC

ECC/SU Software and CAN bus card with USB interface	
USB connection	USB 2.0
Voltage supply	via USB, 5 V DC / 300 mA
Operating temperature	-20 °C ... +70 °C (-4 °F ... +158 °F)
Storage temperature	-40 °C ... +85 °C (-40 °F ... +185 °F)
Air humidity	max. 80%, non-condensing
Housing	ABS plastic
Protection class	IP40
Dimensions	80 x 50 x 22 mm (H x W x D)
Weight	approx. 100 g

ECC/SE Software and CAN bus card with PCI Express® interface	
PCI interface	PCI Express® Base Specification, Rev 1.1, single lane port (x1)
Voltage supply	via PCI-Express®, 3.3 V DC / 400 mA
Operating temperature	-20 °C ... +70 °C (-4 °F ... +158 °F)
Storage temperature	-40 °C ... +85 °C (-40 °F ... +185 °F)
Air humidity	max. 80 %, non-condensing
Dimensions	64 x 105 mm (H x W)

ECC/SP Software and CAN bus card with PCI interface	
PCI interface	PCI specification 2.2, 32 bit, 33 MHz
Voltage supply	via PCI, 3.3 V DC / 100 mA, 5 V DC / 100 mA
Operating temperature	-20 °C ... +70 °C (-4 °F ... +158 °F)
Storage temperature	-20 °C ... +85 °C (-40 °F ... +185 °F)
Air humidity	max. 80 %, non-condensing
Dimensions	64 x 120 mm (H x W)
Weight	approx. 60 g

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ECC/EG built-in version, 7"W screen diagonal	
Voltage supply	12 - 24 V DC, 1.5 A
Operating temperature	0 °C ... +50 °C (+32 °F ... +122 °F)
Storage temperature	-10 °C ... +70 °C (+14 °F ... +158 °F)
Air humidity	max. 80 %, non-condensing
Protection class	IP65 front side, IP20 rear side
Dimensions	Cutout for assembly: 190 x 129 mm (W x H) Housing: 165.5 x 92.5 x 41 mm (W x H x D) Front panel: 200.5 x 139.5 x 7 mm (W x H x D)
Weight	1.0 kg
Control	LCD TFT touch screen, capacitive, 7"W

ECC/GG and ECC/NG housing version, 7"W screen diagonal	
Voltage supply	Variant O, without power supply unit: 24 V DC, 1.5 A Variant M, with power supply unit: 85 - 264 V AC, 45-65 Hz 1.7 A (120 V AC) 1 A (230 V AC)
Operating temperature	0 °C ... +50 °C (+32°F ... +122 °F)
Storage temperature	-10 °C ... +70 °C (+14 °F ... +158 °F)
Air humidity	max. 80 %, non-condensing
Protection class	IP65 front side, IP20 rear side
Dimensions	without stand:324 x 311 x 160 mm (W x H x D) with stand: 324 x 508 x 160 mm (W x H x D)
Weight	without stand: approx. 8.4 kg with stand: approx. 11.6 kg
Control	LCD TFT touch screen, capacitive, 7"W

ECC/EH built-in version, 12.1"W screen diagonal

Voltage supply	24 V DC ±20 %, 1.5 A
Operating temperature	0 °C ... +50 °C (+32 °F ... +122 °F)
Storage temperature	-10 °C ... +70 °C (+14 °F ... +158 °F)
Air humidity	max. 80 %, non-condensing
Protection class	IP65 front side, IP20 rear side
Dimensions	Cutout for assembly: 307.5 x 209.5 mm (W x H) Housing: 243 x 172.8 x 46 mm (W x H x D) Front panel: 314.9 x 217 x 6 mm (W x H x D)
Weight	1.9 kg
Control	LCD TFT touch screen, capacitive, 12.1"W

ECC/GH and ECC/NH housing version, 12.1"W screen diagonal

Voltage supply	Variant O, without power supply unit: 24 V DC ±20 %, 1.5 A Variant M, with power supply unit: 85 - 264 V AC, 45-65 Hz 1.7 A (120 V AC) 1 A (230 V AC)
Operating temperature	0 °C ... +50 °C (+32 °F ... +122 °F)
Storage temperature	-10 °C ... +70 °C (+14 °F ... +158 °F)
Air humidity	max. 80 %, non-condensing
Protection class	IP65 front side, IP20 rear side
Dimensions	without stand:474 x 418 x 160 mm (W x H x D) with stand: 474 x 615 x 160 mm (W x H x D)
Weight	without stand: approx. 9.2 kg with stand: approx. 12.2 kg
Control	LCD TFT touch screen, capacitive, 12.1"W

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8. Dimensions
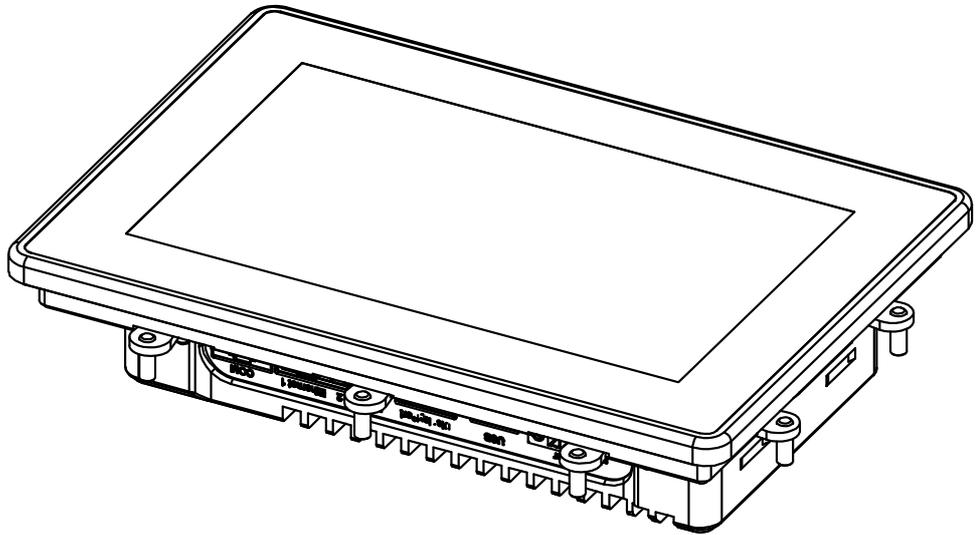
Remote control ECC

Fig. 35:
Remote control
Built-in version
ECC/EG

Z-117839y_3
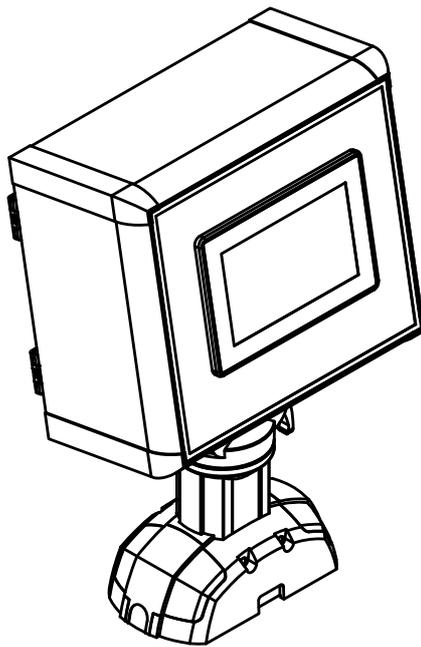
Fig. 36:
Remote control
Housing version
with stand
ECC/GG

Z-117836y_2
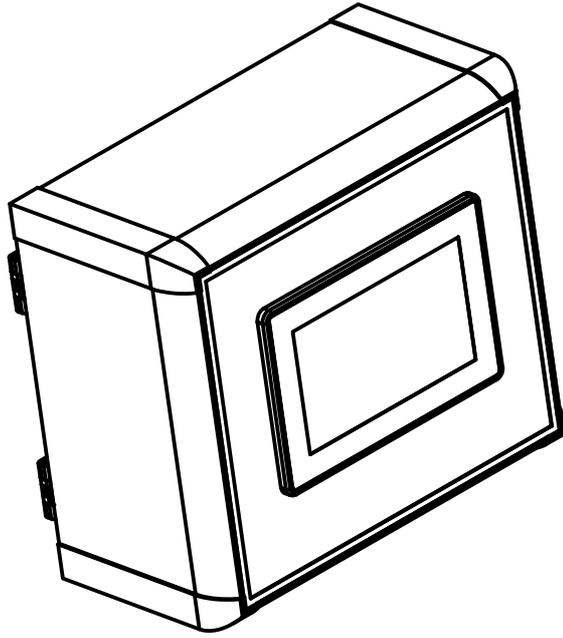
Fig. 37:
Remote control
Housing version
without stand
ECC/NG

Z-117838y_1

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Remote control built-in version ECC/EG and ECC/EH
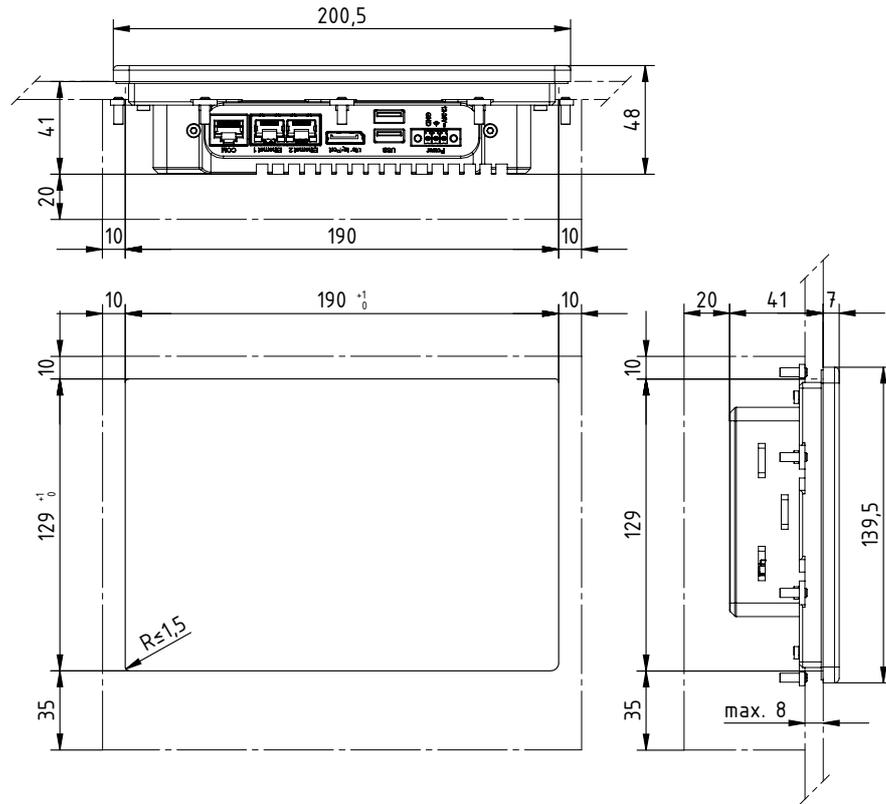
Fig. 38:
Installation cutout
and dimensions,
Remote control
ECC/EG (7"W)

Chain-lined area:
Space for plug,
mounting brackets
and ventilation
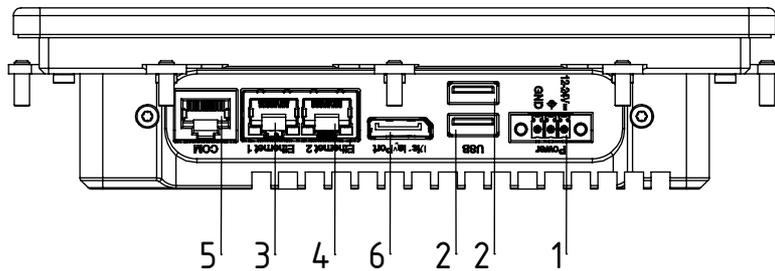
Z-117839y_1

Fig. 39:
Connections
Remote control
ECC/EG

Z/117839y_2

No.	Designation
1	12 - 24 V DC supply
2	USB 1 and USB x2
3	LAN 1
4	LAN 2
5	COM, serial interface
6	DVI, display connection

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Fig. 40:
Installation cutout
and dimensions,
Remote control
ECC/EH (12.1"W)

Chain-lined area:
*Space for plug,*
mounting brackets
and ventilation
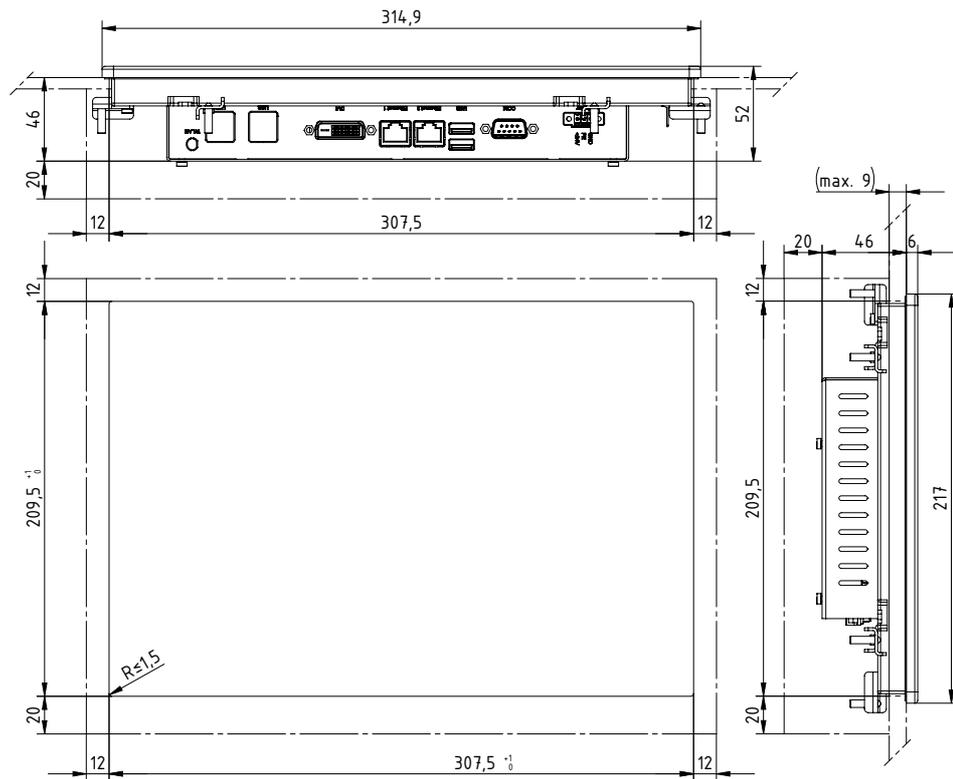
Fig. 41:
Connections
Remote control
ECC/EH
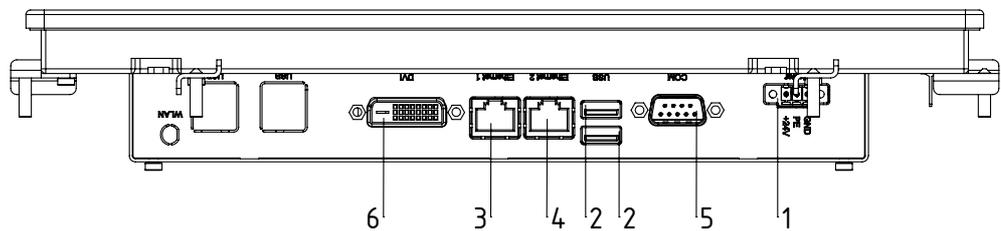
No.	Designation
1	24 V DC supply, ±20 %
2	USB 1 and USB x2
3	LAN 1
4	LAN 2
5	COM, serial interface
6	DVI, display connection

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Remote control housing version ECC/GG and ECC/GH
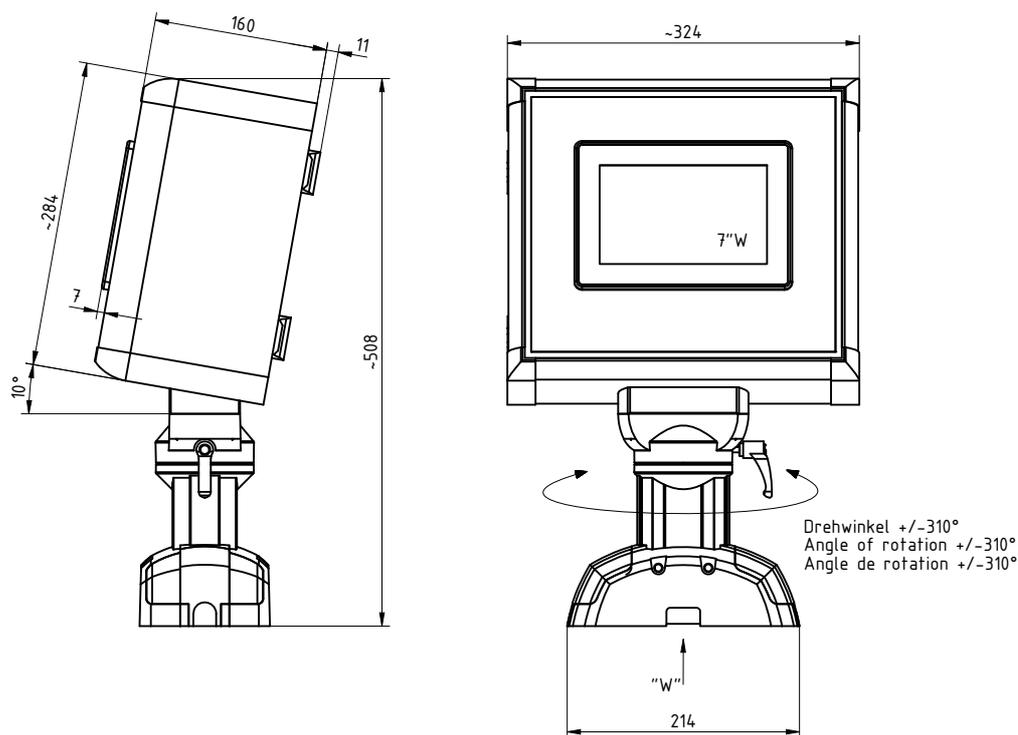
Fig. 42:
Dimensions,
Remote control
ECC/GG

Drehwinkel +/-310°
Angle of rotation +/-310°
Angle de rotation +/-310°
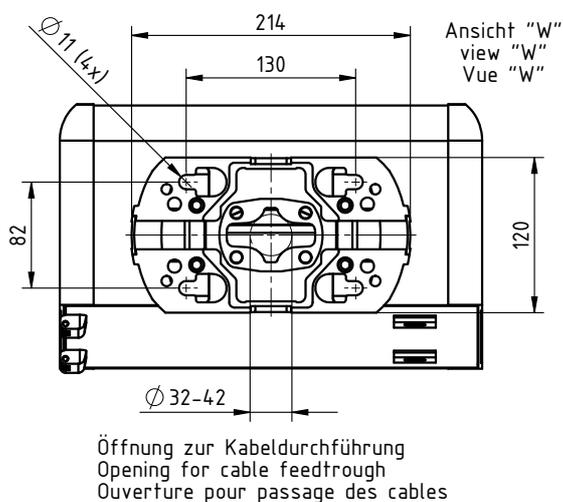
Z-117836y_3

Fig. 43:
Hole pattern of
base plate
ECC/GG

Ansicht "W"
view "W"
Vue "W"

Öffnung zur Kabeldurchführung
Opening for cable feedtrough
Ouverture pour passage des cables

Z-117836y_1

BA-en-9060-2211_ECC

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160
11
~394
6
10°
~615

~474

12,1"W

Drehwinkel +/-310°
Angle of rotation +/-310'
Angle de rotation +/-310

"W"

214
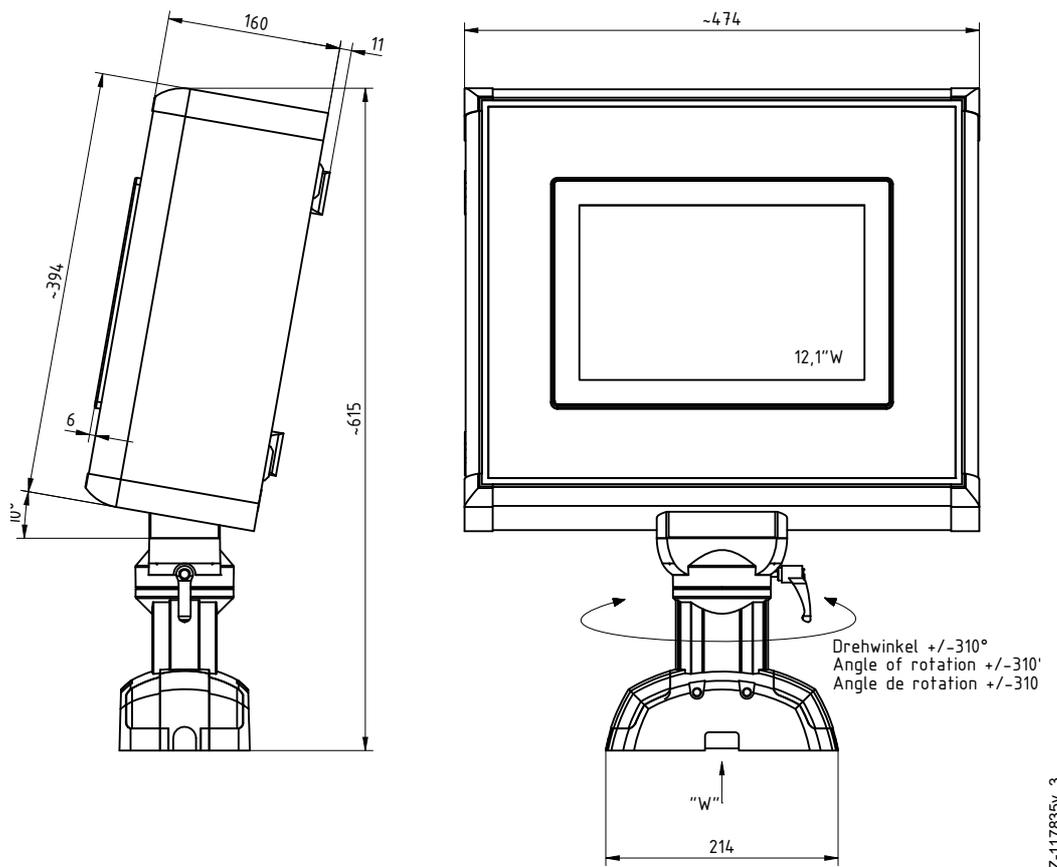
Z-117835y_3

Fig. 44:
Dimensions,
Remote control
ECC/GH

Ø 11 (4x)

214
130

82
120

Ø 32-42

Ansicht "W"
view "W"
Vue "W"

Öffnung zur Kabeldurchführung
Opening for cable feedtrough
Ouverture pour passage des cables
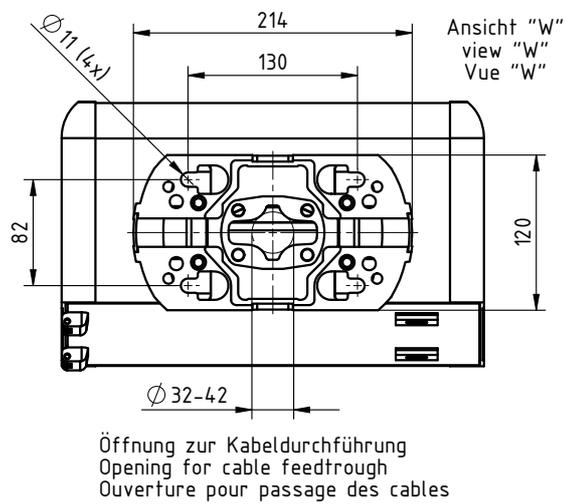
Z-117836y_1

Fig. 45:
Hole pattern of
base plate
ECC/GH

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Remote control housing version ECC/NG and ECC/NH
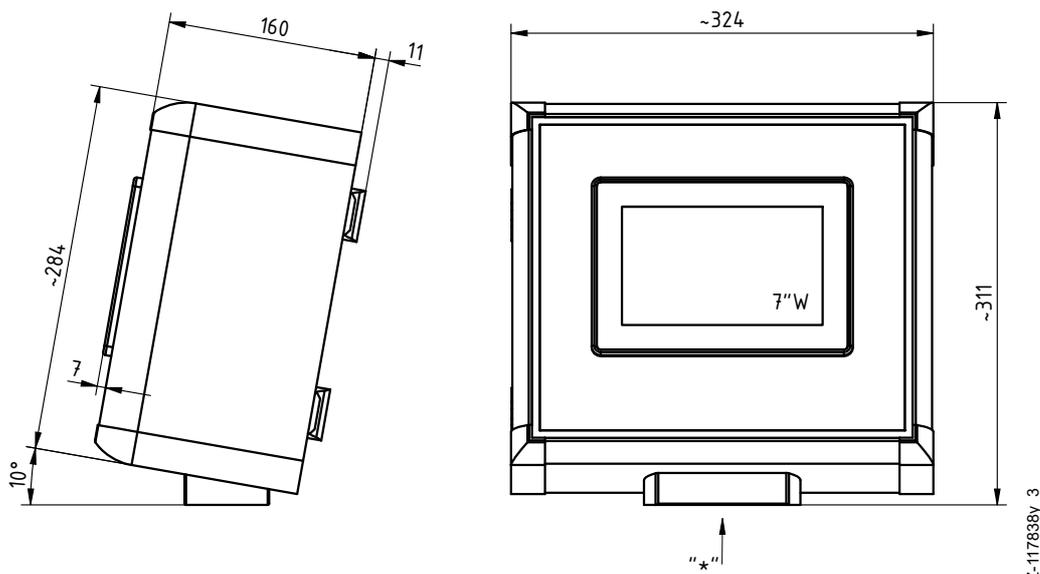
Fig. 46:
Dimensions,
Remote control
ECC/NG
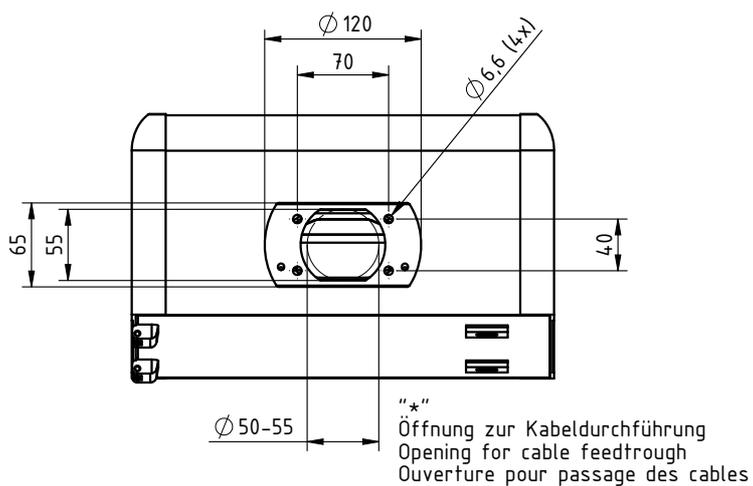
Fig. 47:
Hole pattern of
tilt adapter
ECC/NG

"*"
Öffnung zur Kabeldurchführung
Opening for cable feedtrough
Ouverture pour passage des cables

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Fig. 48:
Dimensions,
Remote control
ECC/NH

160

11

~394

6

10°

~474

~418

12,1"W

"*"
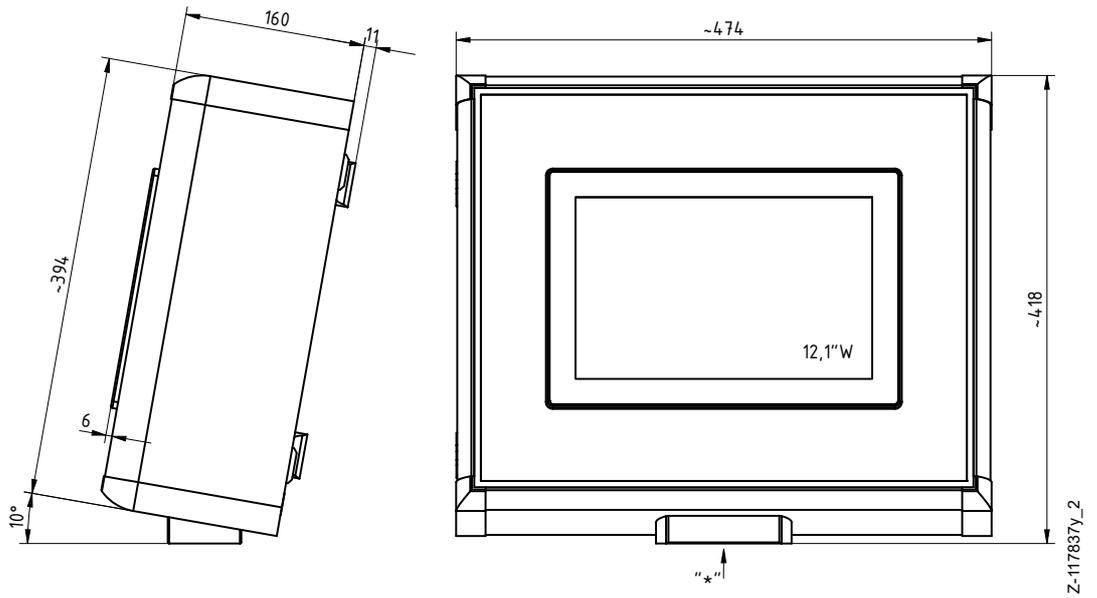
Z-117837y_2

Fig. 49:
Hole pattern of
tilt adapter
ECC/NH

∅ 120

70

∅ 6,6 (4x)

65

55

40

∅ 50-55

"*"
Öffnung zur Kabeldurchführung
Opening for cable feedtrough
Ouverture pour passage des cables

Z-117838y_2

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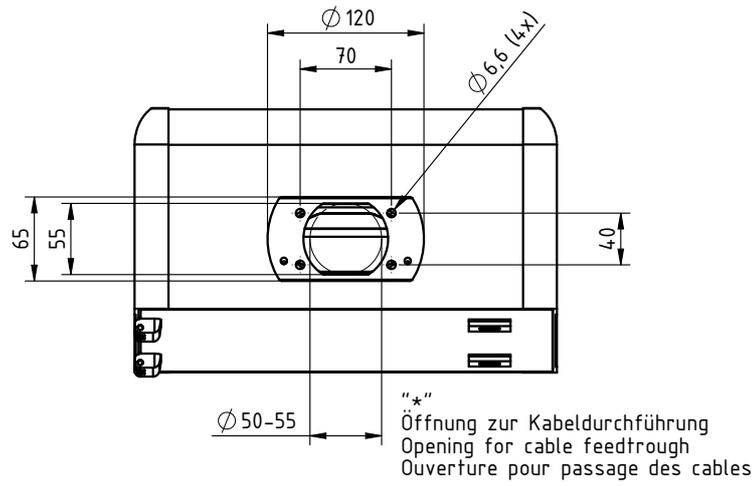
9. Spare parts and accessories

Item	Reference no.
ECC control unit, 7" screen diagonal	117816
ECC control unit, 12.1" screen diagonal	117815
Software and CAN bus card with USB interface	115007
Software and CAN bus card with PCI Express® interface	115008
Software and CAN bus card with PCI interface	104747
T-distributor M12, 5-pin, shielded	114854
Adapter D-Sub socket, M12 plug	114858
Interface cable fieldbus CANopen® Plug by the customer: Plug / socket straight / angled or open connectors, shielded Cable ends selectable (specify cable length)	CS/CM_ _ _ _
Interface cable fieldbus CANopen® Socket by the customer: Plug / socket straight / angled or open connectors, shielded Cable ends selectable (specify cable length)	CS/CF_ _ _ _
Interface cable fieldbus CANopen® Socket straight by customer: open end Connectors unshielded Cable ends selectable (specify cable length)	KS/R_ _ _
Interface cable fieldbus CANopen® Socket angled by customer: open end Connectors unshielded Cable ends selectable (specify cable length)	KS/S_ _ _
Interface cable fieldbus CANopen® Socket straight by the customer: Plug straight Connectors unshielded Cable ends selectable (specify cable length)	KS/T_ _ _

Item	Reference no.
Interface cable fieldbus CANopen®, Socket angled by the customer: Plug straight Connectors unshielded Cable ends selectable (specify cable length)	KS/U_ _ _
Power supply unit DIN rail 24 V DC, 100 W 85 V AC - 264 V AC; 45 - 65 Hz	115047
Operating instructions (specify language)	BA-xx-9060

When ordering, please always state the item number.

10. Battery change / decommissioning

The following steps must be taken to dispose of the ECC control unit:

Attention!
The work must be performed by qualified electricians only.

Warning!
Risk of electric shock!
Before disassembling the ECC control unit, switch it off and remove all connectors and cables.

Before disposing of the device, the battery integrated in the ECC control unit must be removed and disposed of separately. To do so, open the rear cover of the ECC control unit, remove the 5 screws and the bolts of the D-Sub connectors. Replace or dismount the battery and dispose of it separately.

After removing the battery, the ECC control unit can be disposed of according to the methods of general waste disposal (electrical waste).

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Eltex agencies can be
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