

E3C User Manual

Version: 1.1

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Overview

E3C is the configuration tool for Eltorque actuators. Eltorque actuators store all settings in internal nonvolatile memory and are configured with this dedicated software tool.

The following actuators and firmware versions are known to be supported:

- QT250/QT800 1.0
 - CANopen, version 1.1.7 and 1.1.8.
 - Analog, version 1.1.3.
 - Digital, version 1.1.3.
 - Modbus, version 1.1.3.
- MT50
 - CANopen, version 1.0.6.
 - Digital, version 1.0.4.
- MT150
 - CANopen, version 1.0.6.
 - Digital, version 1.0.5.
- QT250/QT800 EX embib 2.2/2.3.
 - CANopen, version 1.1.11.
- QT2500/QT4000
 - CANopen, version 1.0.3 and 1.0.10.
 - Digital, version 1.0.4.
 - Modbus, version 1.0.6.
 - Analog, version 1.0.4.
- QT50
 - CANopen/Digital, version 1.3.1.

Installation

- Prior to installation of *E3C*, it is recommended to uninstall all versions of *Eltorque Manager*.
- Download the newest version of E3C at <http://www.eltorque.com>
- Run the installation file and follow the steps of the Windows installer.

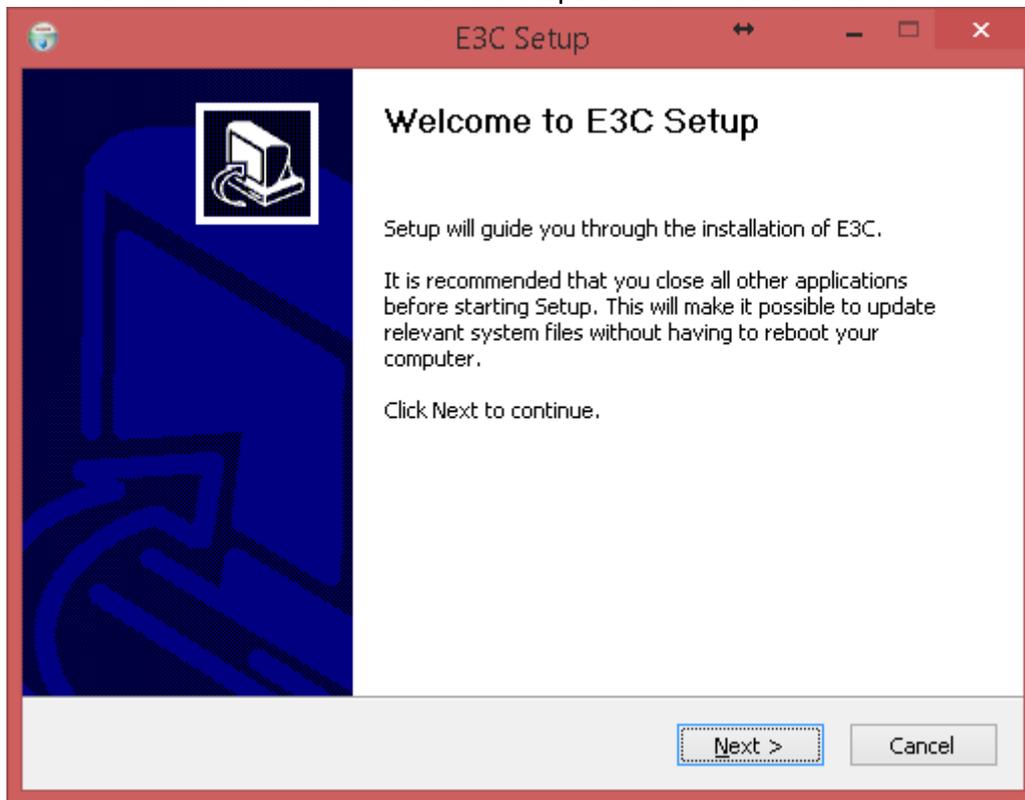


Figure 1 Welcome screen of E3C Setup

E3C requires an USB driver to work with the interface cable. Windows will install this driver automatically when the cable is connected and the PC is connected to internet.

Main window

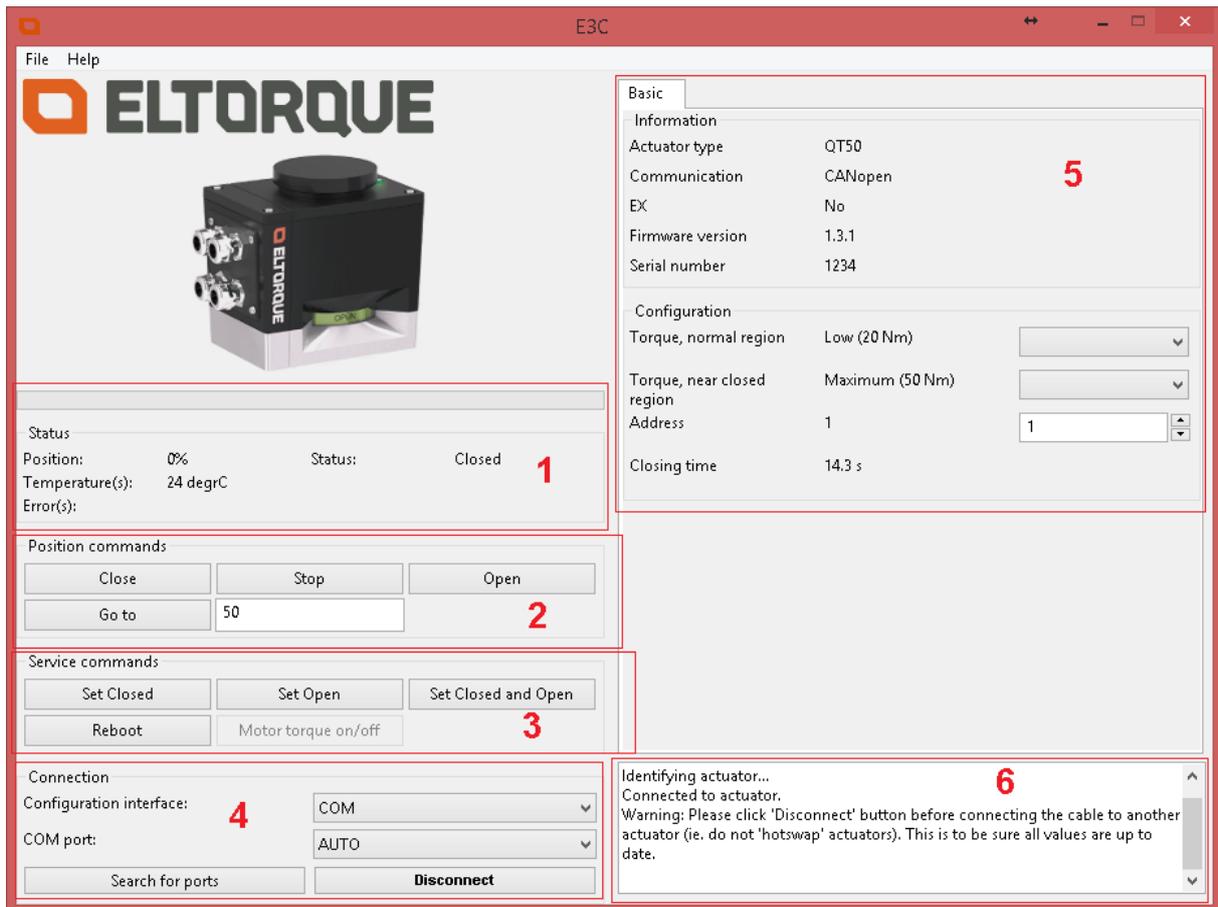


Figure 2 Main window

1. Show the position, temperature, status and errors of the actuator.
2. Control buttons for running and stopping the actuator.
3. Service commands for setting Closed/Open, rebooting the actuator and turning off torque temporarily.
4. Buttons and configuration for E3C's connection to the actuator.
5. Basic information and configuration for the actuator.
6. General connection status and error messages.

Control and configuration descriptions

When selecting configuration values, E3C will automatically write these values to the actuator. Verify correct values in the column next to the configuration options.

Close – Run the valve to Closed position.

Stop – Halt the actuator at current position.

Open – Run the valve to Open position.

Go to – Run the actuator to a percent position (0-100%).

Set Closed – Set the current position as Closed position.

Set Open – Set the current position as Open position.

Set Closed and Open - Set the current position as Closed position and calculates the Open position 90 degrees CCW (suitable for butterfly valves).

Reboot – Reboots the firmware of the actuator.

Motor torque on/off – Turns off torque temporarily. Only applicable for QT250/QT800 1.0.

Configuration interface – Choose connection between E3C and the actuator. Available options are COM port (using the Eltorque Configuration Cable) or CAN using an IXXAT USB-to-CAN adapter. For details on how to connect using CAN, contact Eltorque service.

COM port – Select USB COM port for Eltorque Configuration Cable. Normally this is set to “AUTO” and E3C will automatically detect the COM port.

Search for ports – This will initiate the search for new COM ports if the USB cable has been connected/disconnected.

Connect/Disconnect – Connect or disconnect E3C from the actuator. *It is important to press “Disconnect” before removing the cable from the actuator.*

Torque, normal region – Sets the normal region operating torque.

Torque, near closed – Sets the torque in the near closed region. This regions is standard set to 15%.

Node ID – Sets the node ID of the CANopen or Modbus communication.

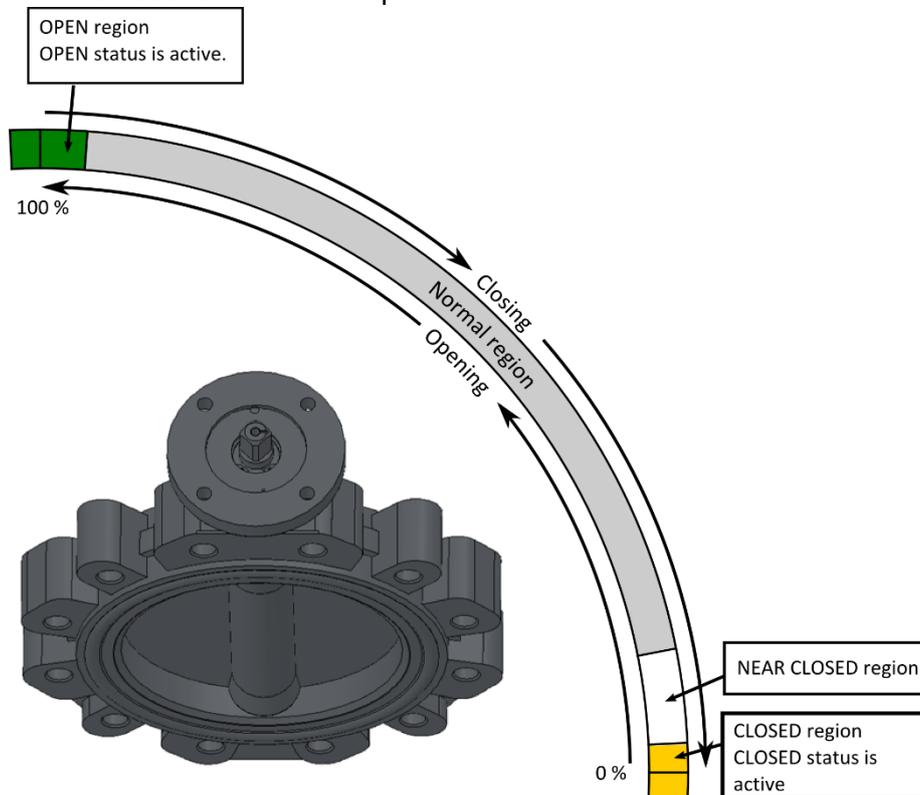


Figure 3 Illustration of regions

Connecting to the actuator

Connection to the actuator can be established with Eltorque Configuration Cable (P/N: 900.001) with USB interface. Please contact your local Eltorque supplier for purchase.

There is a switch on the side of the interface cable. This *must* be set to 0 as shown in Figure 4. The cable is then connected to the port on the actuator. An example for QT250/QT800 1.0 is shown in Figure 5. For your specific actuator pick, the plug may be located elsewhere.



Figure 4 Eltorque Configuration Cable and switch



Figure 5 Eltorque Configuration Cable connected to port

Troubleshooting

Symptoms	Problem	Solution
E3C has trouble connecting to the actuator.	There are multiple USB serial ports connected to the PC and E3C is not able to automatically detect which one is the Eltorque Configuration Cable.	<p>You may either:</p> <ul style="list-style-type: none"> • Disconnect the other USB devices or • Choose the COM port manually in E3C (see “Manually Finding the COM port of the Eltorque Configuration Cable”).
	<p>The USB device is not recognized by Windows because:</p> <ol style="list-style-type: none"> 1. The USB driver is not installed. 2. The USB port of the PC is damaged. 3. The Eltorque Configuration Cable is damaged. 	<ol style="list-style-type: none"> 1. The driver must be installed the following way: <ol style="list-style-type: none"> a. Connect the PC to internet. b. Disconnect the cable. c. Reconnect the cable. d. Windows should now install the driver automatically. 2. Connect the cable to a different USB port or use another PC. 3. The following steps must be performed: <ol style="list-style-type: none"> a. First verify that the cable is detected by E3C by trying to find it manually (see “Manually Finding the COM port of the Eltorque Configuration Cable”). b. Verify that no Windows error messages pops up when connecting the cable. c. If the COM port of the cable cannot be found or error messages pops up indicating a damaged cable, a new cable may be purchased. See “Connecting to the actuator”.
	For QT250/QT800 EX embib 2.2/2.3, problems may occur if the temperature cables have not been properly installed.	Make sure the temperature cables are properly connected to the actuator. The actuator will not boot up otherwise.
E3C reports that firmware version is not compatible with this version of the configuration software.	<p>This may happen for two reasons:</p> <ol style="list-style-type: none"> 1. The version of E3C is too old. 2. The version of the firmware is too old and is not supported by E3C. 	<ol style="list-style-type: none"> 1. Download and install the latest version of E3C at http://www.eltorque.com 2. See the list of supported versions in “Overview”. Please contact Eltorque Service if support of older versions is needed.

<p>User interface is not shown correct. Text and buttons are not scaled correctly.</p>	<p>This happens when the “Display Scaling” is set to other than 100% (default) on some versions of Windows.</p>	<p>This is to be fixed in future versions of E3C. A possible workaround is:</p> <ul style="list-style-type: none"> • Go to “Control Panel” → “Appearance and Personalization” → “Display”. • Check the option “Let me choose one scaling level for all my displays”. • Set the size to “Smaller - 100%”. • Log out of Windows to enable the settings.
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Manually Finding the COM port of the Eltorque Configuration Cable

Note: E3C will normally find the COM port automatically by selecting “AUTO” in “Connection” → “COM port”. This section is only provided for reference and troubleshooting.

The correct COM port of Eltorque Configuration Cable may be found by using the following method.

- Disconnect the cable from the PC.
- Click “Connection” → “Search for ports”.
- Look at the list of ports in “Connection” → “COM port”. Write down all COM port numbers that have “USB Serial Port” in the name.
- Re-connect the cable to an USB port.
- Click “Connection” → “Search for ports”.

The COM port for the cable should now have popped up under “Connection” → “COM port”.