

SOURCETRONIC – Quality Electronics for Service, Lab and Production

User Manual

ST®EOL Software



1. Table of contents	
1. Table of contents	2
2. Introduction	3
2.2 Personnel qualification	3
2.3 Basic safety notes	4
2.4 Responsibility and warranty	4
2.5 Damage due to shipping	4
3. Administration	5
3.1 System Setup	5
3.1.1 Installing ST®EOL	5
3.1.2 Configuring a database connection (optional)	10
3.2 Configuration	11
3.2.1 Setting up language	12
3.2.2 User management	13
3.2.3 Serial interface	16
3.3 Result storage	17
4. Test plan editing	18
4.1 Administering test plans	18
4.2 Adding test steps	19
4.2.1 Open/short correction (ST2827)	21
4.2.2 Capacity test (ST2827)	22
4.2.3 Tan Delta test (ST2827)	23
4.2.5 High Voltage test (all ST9201 models)	24
4.2.6 Insulation Resistance test (ST9201B, ST9201S)	25
4.2.7 Logical Steps	26
5. Testing	28
5.1 Individual Test	28
5.2 Test plan	29
5.2.1 Automatic test plan selection by test plan ID	30
5.2.2 Manual test plan selection	31
6. Notes for safe operation	32
6.1 General safety instructions	32
6.2 Special safety instructions for high-voltage testing and other types of hazardous testing	32
6.2.1. Protection of outsiders	32
6.2.2 Protection of the test operator	33
6.2.3 Testing with safety test cage	33

2 Introduction

This manual describes the functions of ST®EOL.

This manual is aimed at various roles of ST®EOL users. This manual differentiates between the roles of administration, test plan editing, inspector and report creation. Furthermore, the manual contains a reference of the tests performed by ST®EOL.



Note regarding the state of the document

This manual has the status *in progress*. All details are correct to the best of knowledge, but may be incomplete. The information in this manual supplements the existing documentation.

2.2 Personnel qualification



Specialized staff

The tasks described in this document may only be carried out by persons who have the appropriate technical training or have been trained accordingly by the operator.

2.3 Basic safety notes

- Use is only permitted in compliance with the relevant regulations and observance of mandatory protective measures.
- In addition, observe the safety notes specified in this document. Pass on the safety notes to all other users.

2.4 Responsibility and warranty

Sourcetricon assumes no responsibility nor warranty if the operator or third parties:

- Disregard this document
- Do not use the product as described
- Carry out interventions of any kind (conversions, modifications, etc.) on any part of the product unless explicitly instructed to do so by Sourcetricon
- Operate the product with accessories that are not listed in the associated individual product documentation.

The responsibility in connection with the process media used lies with the operator.

2.5 Damage due to shipping



CAUTION

Please avoid shipping damage!

The devices are to be packed shock- and drop-proof according to the specifications of the shipping company. Devices or device combinations with a total weight of more than 30kg must be shipped by freight forwarding on a pallet.

3 Administration

This part of the manual is aimed at system administrators. It describes information necessary to set up and operate ST®EOL.

It contains instructions to install ST®EOL for system administrators.

3.1 System Setup

This chapter describes the tasks that must be done by a Windows system administrator.

3.1.1 Installing ST®EOL

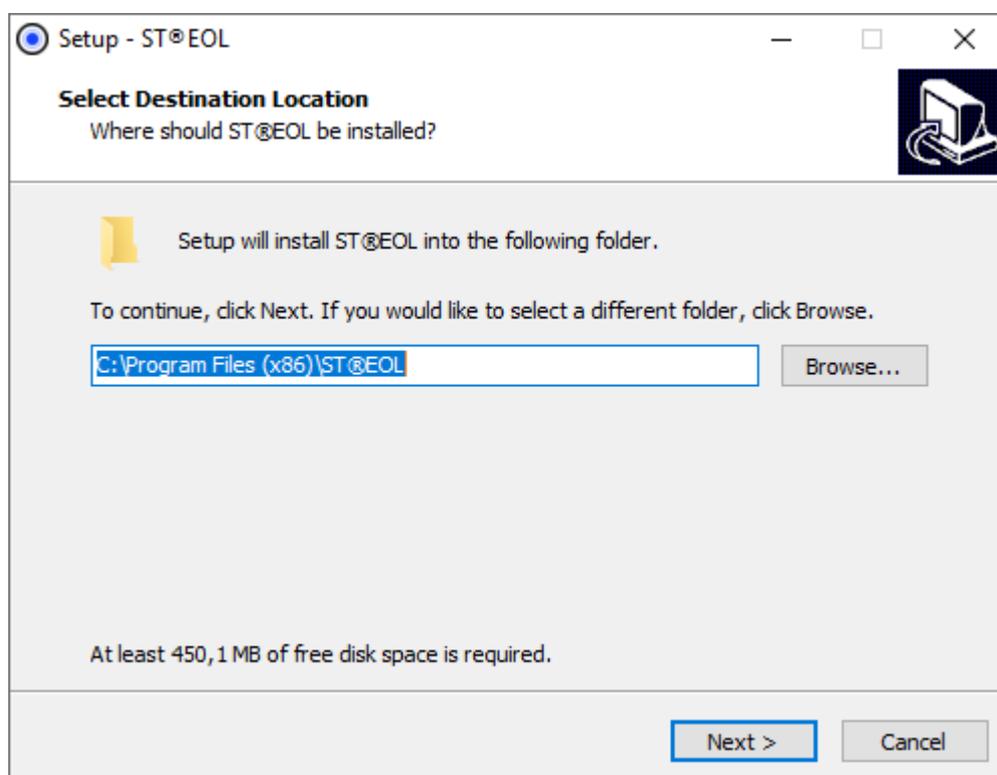
For the installation of ST®EOL into the programs folder, the following conditions must be met:

- You must have local administration rights to be able to install the software for all users.
- You must have the ST®EOL installation file.

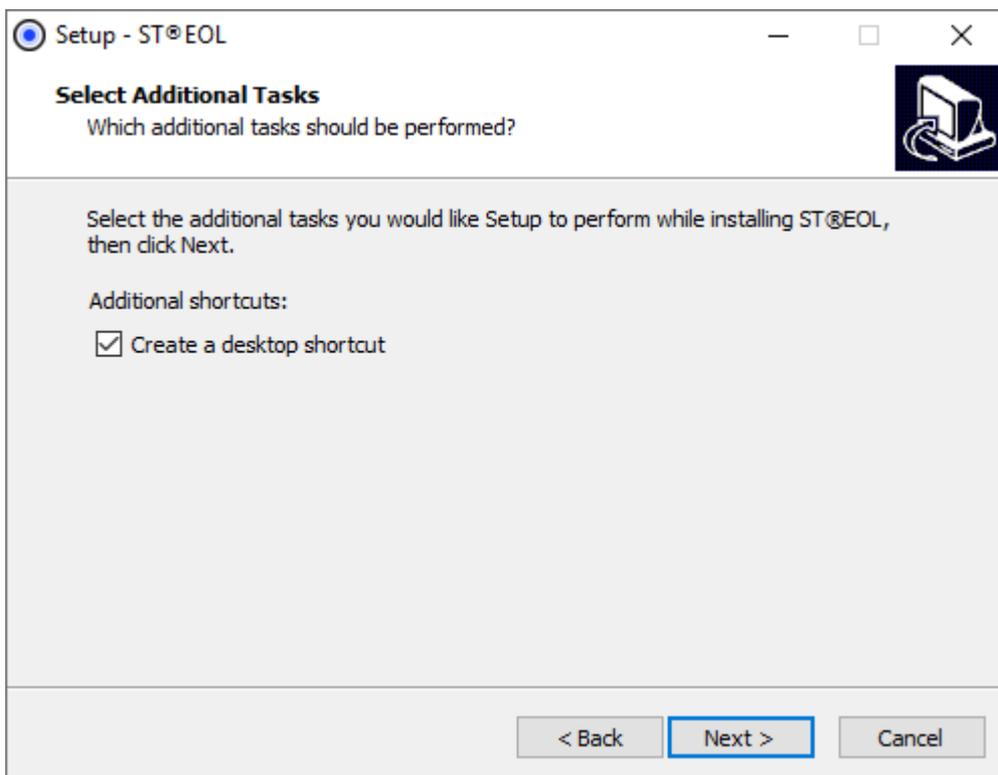
Depending on the settings of User Account Control, additional confirmation dialogs may pop up. Those are not mentioned in the following instructions. Additionally, some buttons may be overlaid by the administrator symbol.

- Open the st_eol_setup.exe file.

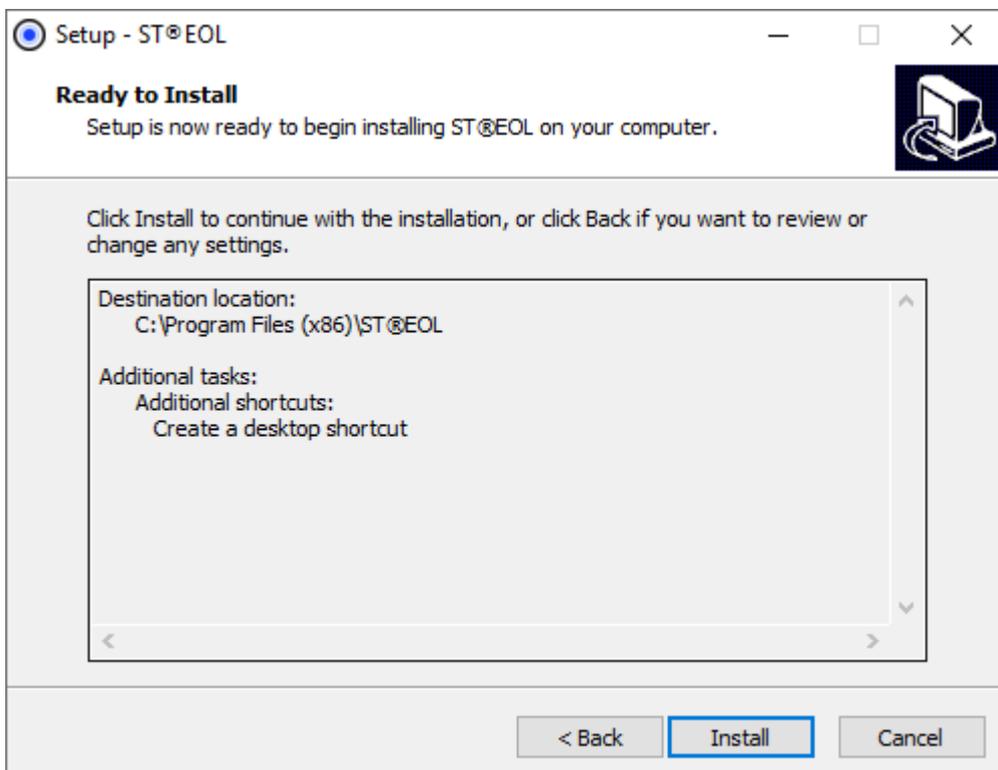
You will be prompted to confirm the install location.



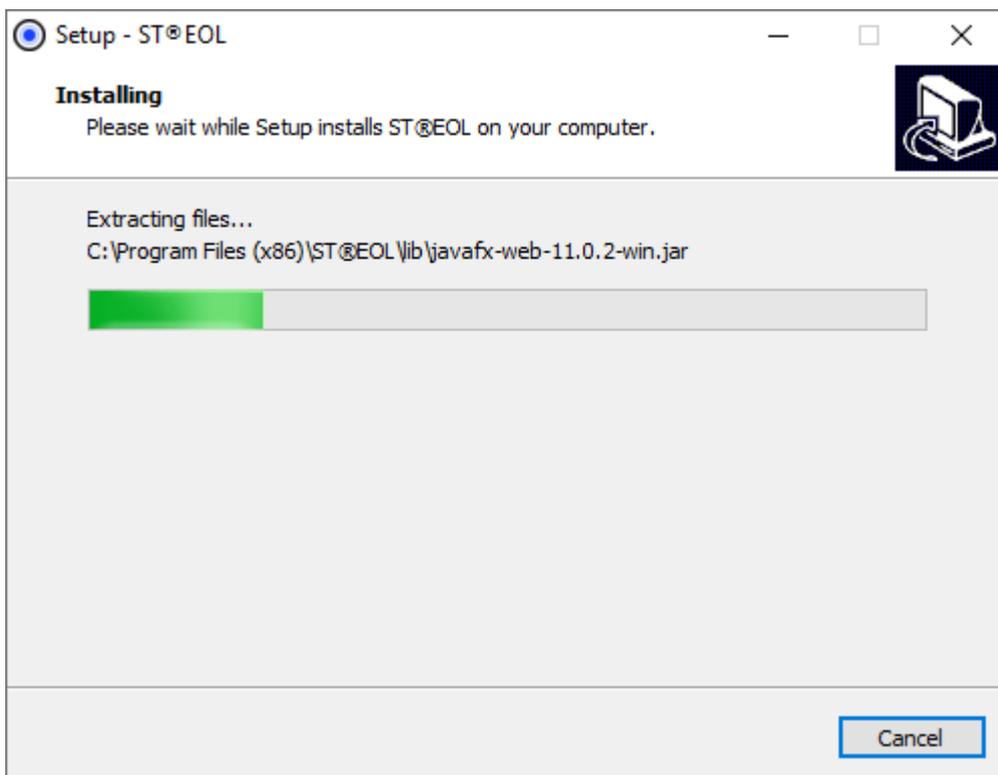
If you do not want Setup to add a link to the desktop, uncheck the box.



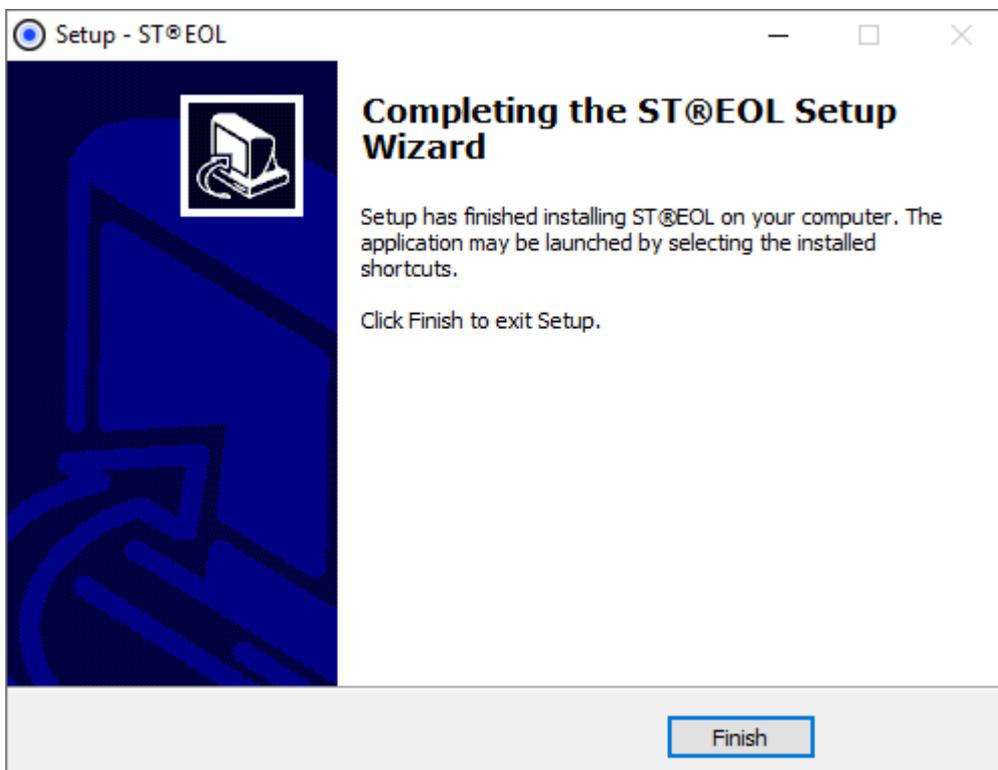
Confirm installation.



Installation will proceed.



After installation is done, click Finish.

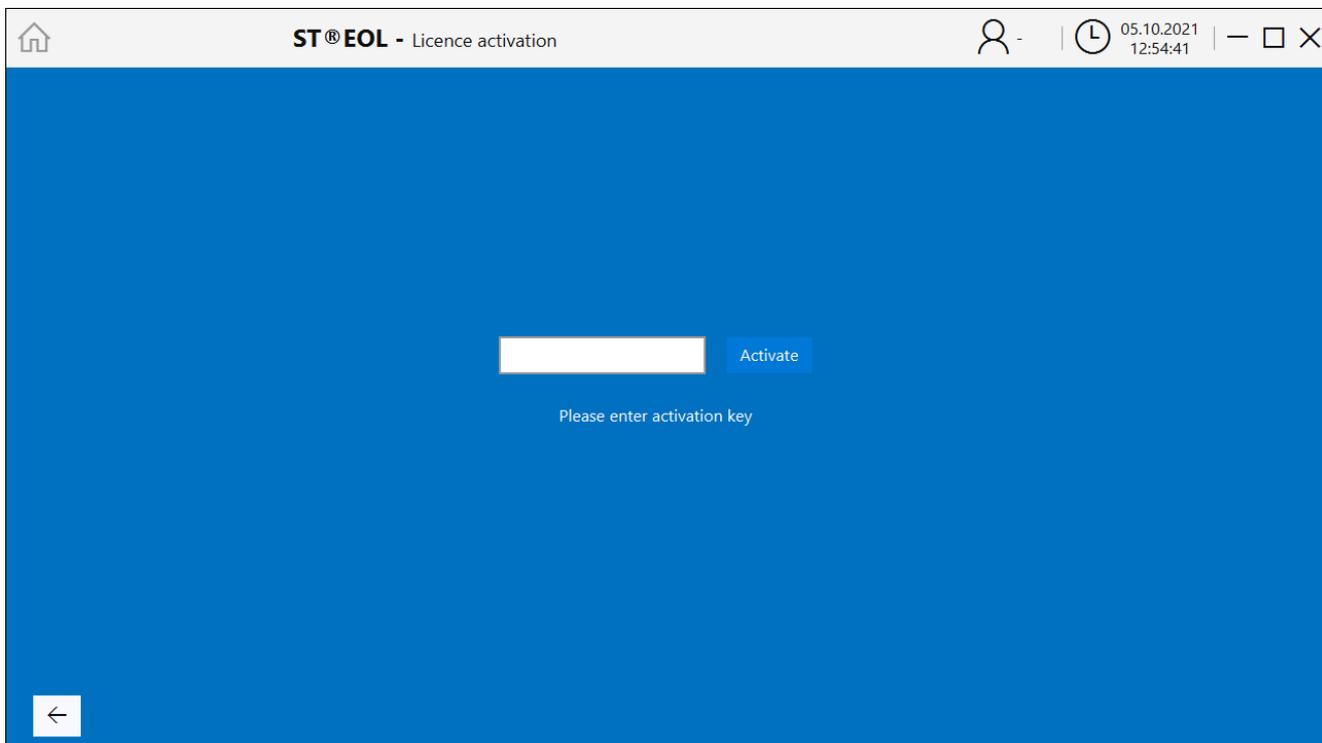


You can now open ST@EOL from the start menu.

On first startup, ST®EOL will ask for your activation key.

Mind the case when entering the key.

You will need internet access at this point.



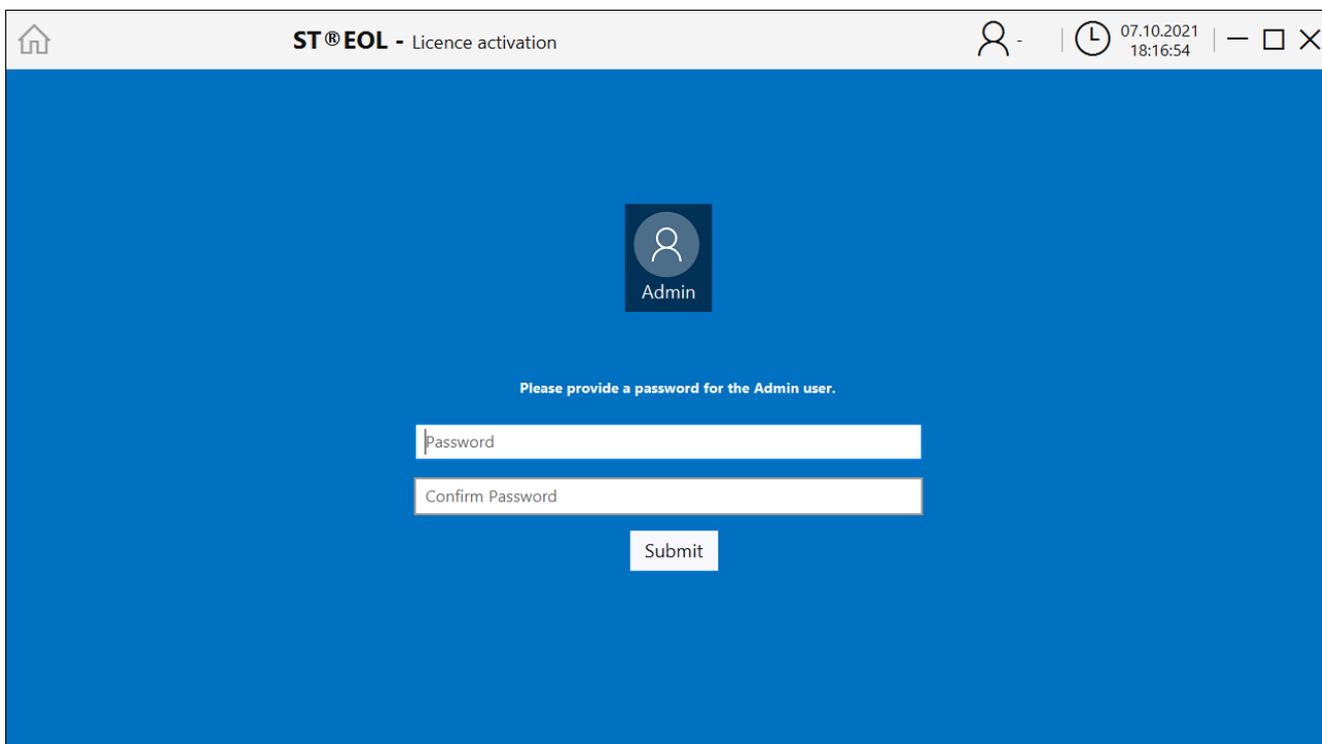
ST®EOL - Licence activation

05.10.2021 12:54:41

Activate

Please enter activation key

After activation, you will be prompted to enter a password for the Admin user.



ST®EOL - Licence activation

07.10.2021 18:16:54

Admin

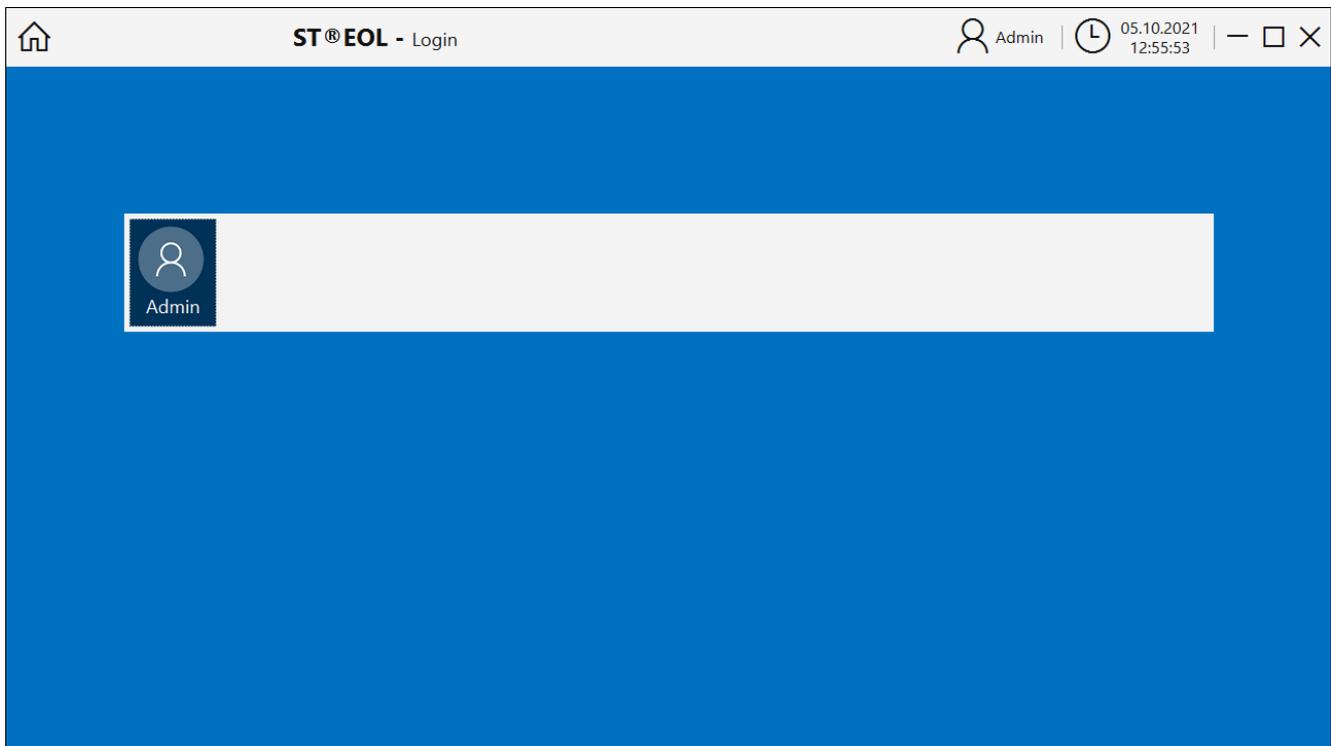
Please provide a password for the Admin user.

Password

Confirm Password

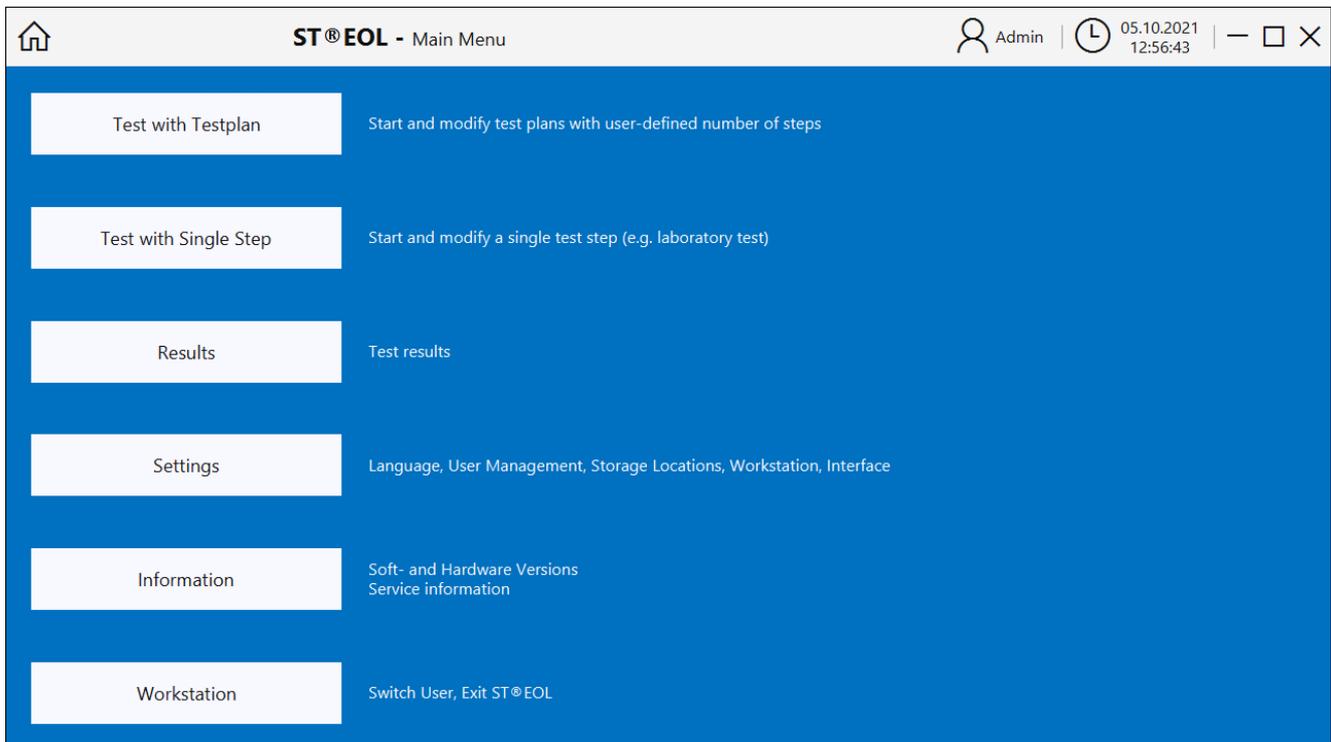
Submit

After setting the password, click on  in the title bar to log in.



Click on Admin and enter the password you just set.

After that, the main menu opens.



3.1.2 Configuring a database connection (optional)

You can skip this section if you do not want to use your own SQL database. Otherwise, click on Settings and then Database Settings to open the configuration.

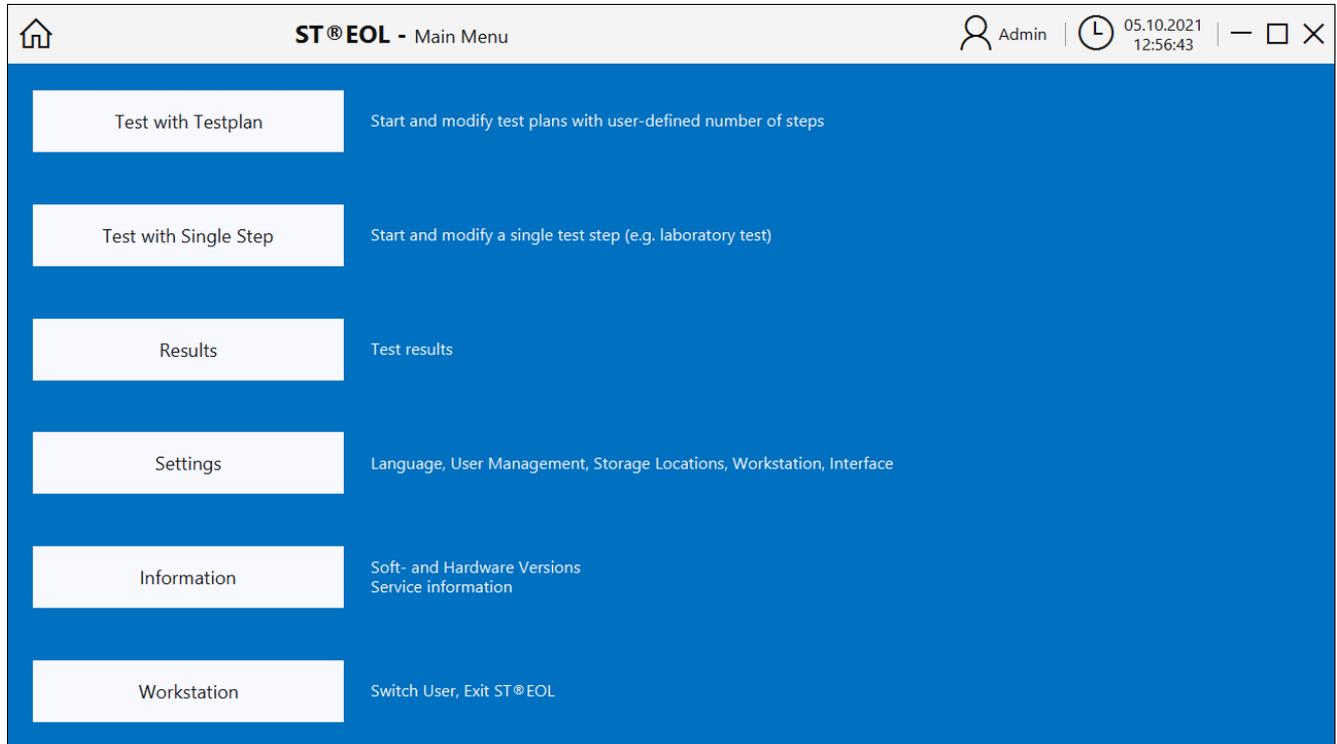
ST®EOL stores test plans and result data on a mapped SQL database. On the first startup of the software, you can choose between internal and external database. An external database is recommended for production use. You can use any external SQL database [that offers a JDBC driver](#). The JDBC driver file must be placed in the application directory in the folder "lib/". The JDBC should be selectable if the driver was in the folder during the startup of the application.

Button	Action
JDBC Driver	Select a JDBC driver from the drop-down list of drivers found in the lib/ folder on startup
Connection URL	Usually the database url starts with "jdbc:" followed by the database type name. The rest of the url must be actual path of the database. For example: "jdbc:mysql://127.0.0.1/testdatabase"
Database dialect	Bridge between Java JDBC types and SQL types. Select this to match your database.
Username	Username for the database connection
Password	Password for the database connection

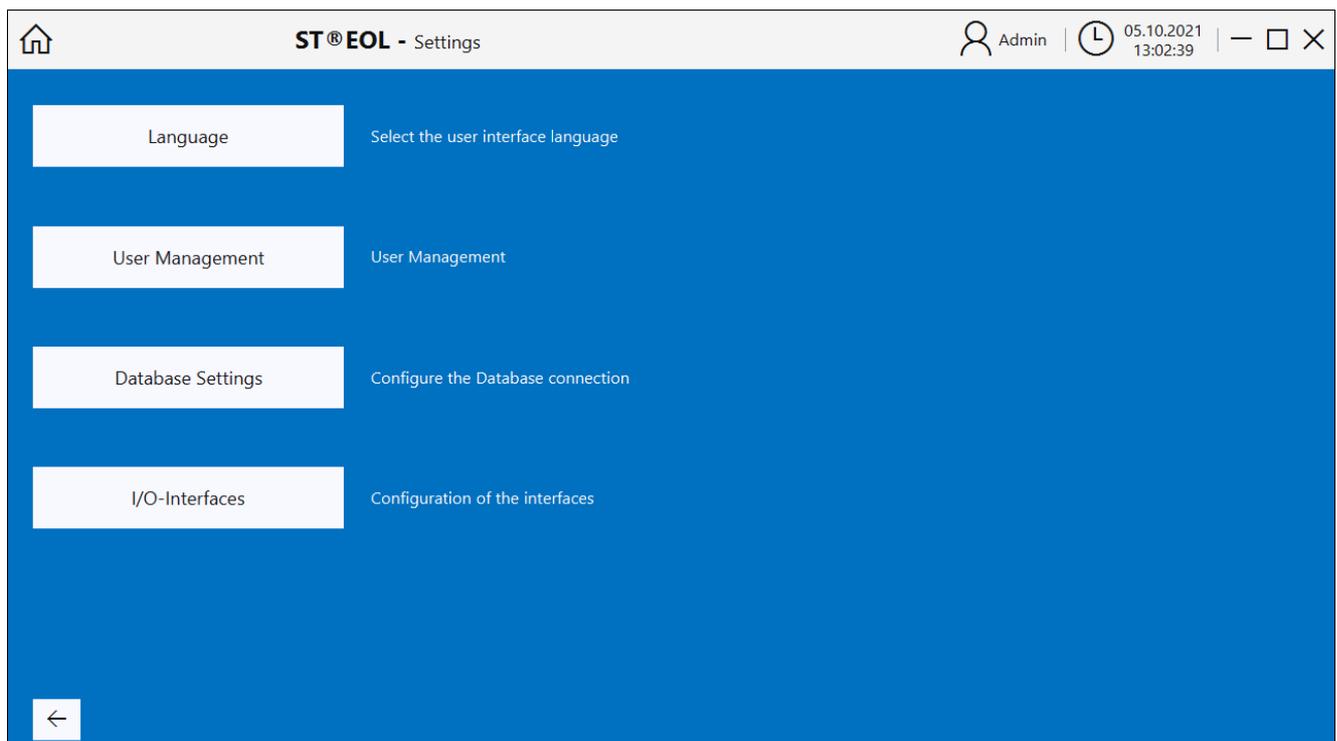
3.2 Configuration

This chapter covers the necessary tasks for configuring ST®EOL.

After installing and starting the software, setting a password for the admin account and logging in using the password, the main menu is displayed:

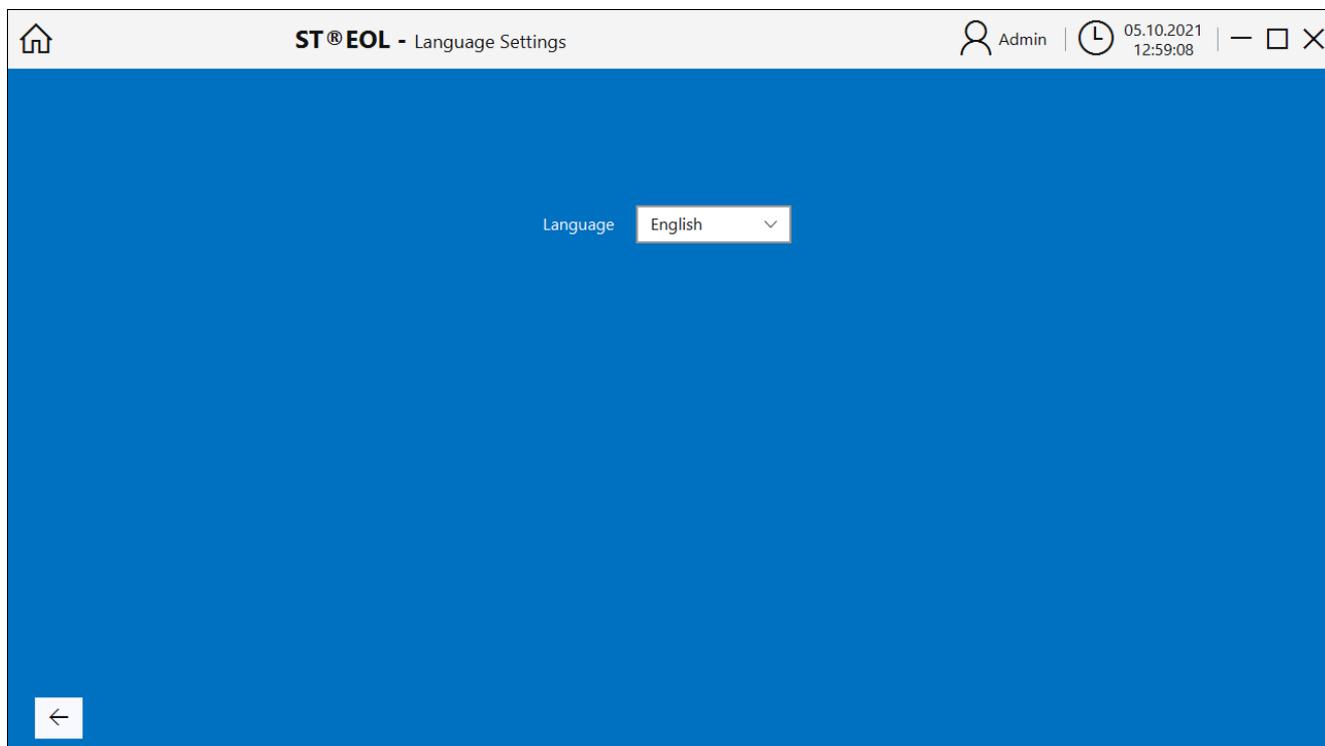


Most configuration tasks are started from this main menu using the button Settings. The window Settings will be displayed, where you can reach the different areas.



3.2.1 Setting up language

Open the Language Settings dialog by choosing Settings -> Language.



Select the desired language from the drop-down list. The language will be active immediately for most of the dialogs.

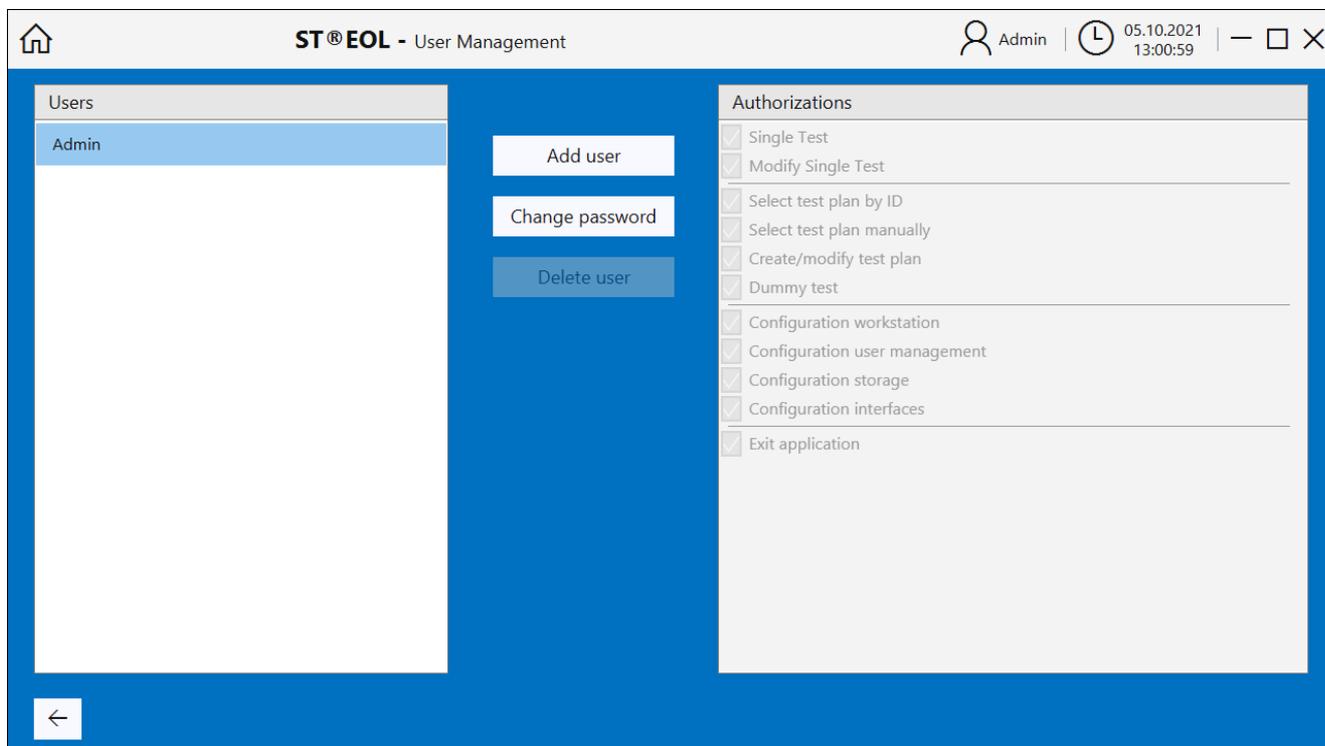
At the moment of writing, only English is available as selection.

Button	Action
<-	The changes will be stored and the window will be closed.

3.2.2 User management

With user management, you can edit the permissions of the users of ST®EOL.

Open the dialog by choosing Settings -> User Management.



The settings will be stored in the database.

The user ADMIN holds all rights by default. This user cannot be deleted. This user is provided to get access to the system without help from Sourcetricon. This user is created when the software is started for the first time, where the operator will be asked for an initial password.

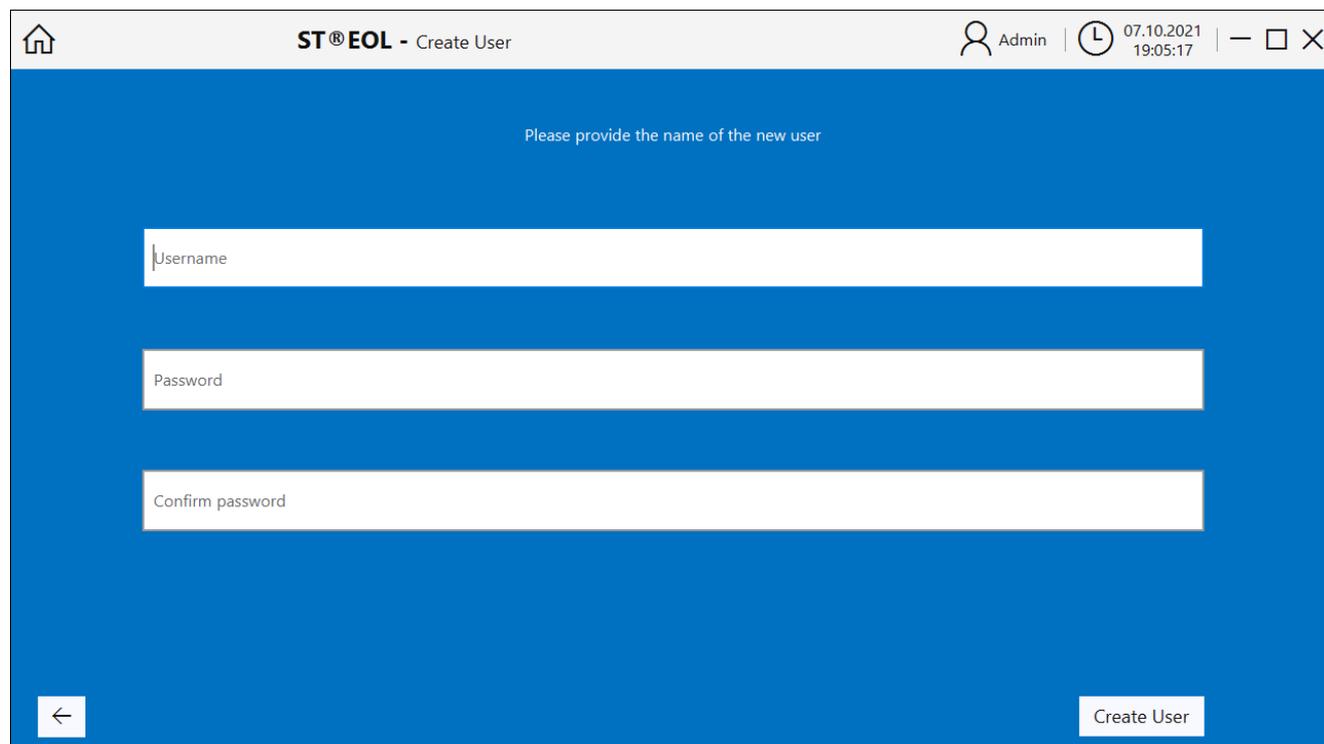
Button	Action
List of rights	In the list of rights, you can specify the permissions for the selected user.
<-	The changes are saved without explicit confirmation. The window is closed and the main menu of the window is displayed again.
Add user	A new user will be created.
Change Password	The password of the selected user will be changed.
Delete user	The selected user will be deleted immediately .

3.2.2.1 Adding a new user

Click on the button *Add New* to create a new user.

A new window is opened to enter the user name and password. By leaving with *Create User*, the user will be created and added to the list.

Both user name and password are case sensitive.



The screenshot shows a web browser window titled "ST®EOL - Create User". The user is logged in as "Admin" and the current date and time are "07.10.2021 19:05:17". The main content area has a blue background and displays the instruction "Please provide the name of the new user". Below this instruction are three white input fields: "Username", "Password", and "Confirm password". At the bottom left, there is a back arrow button, and at the bottom right, there is a "Create User" button.

3.2.2.2 Enter new password

Select a user in the list and click on the button *Change password* to add or change their password.

Both user name and password are case sensitive.

The password is encrypted and cannot be recovered, but it can be changed by the admin user with this function.

3.2.2.3 Delete user

Select the user in the list. Click on the button *Delete*. The user is removed immediately.

3.2.2.4 Assign rights

Select the user in the list. Activate or deactivate the check boxes on the right side to allow or deny the desired rights.

Parameter	Description
Single Test	The user is allowed to do a single step test.
Modify Single Test	The user is allowed to change the parameters of an individual test.
Select test plan by ID	The user is allowed to use automatic test plan selection by entering the plan ID.
Select test plan manually	The user is allowed to use manual test plan selection.
Create / modify test plan	The user is allowed to create and edit test plans.
Dummy test	The user is allowed to run a dummy test.
Configuration workstation	The user is allowed to change the settings of the workstation.
Configuration User management	The user is allowed to change the user permissions.
Configuration Storage	The user is allowed to change the settings for file storage.
Configuration Interfaces	The user is allowed to change the settings in the I/O-Interface. Those settings are described in the respective base device manual.
Exit application	The user is allowed to exit the software and return to the Windows desktop.

3.2.3 Serial interface

With ST®EOL, several devices can be connected and controlled simultaneously. To establish the connection to each device, the respective interface must be configured. The connection must be restarted each time ST®EOL is started. Old settings remain stored. After clicking on the button "Test Connection", the serial interface will be opened, and an attempt to connect to the device will be made. When connection to the device is established, the button changes color to green. If no connection could be established, the button changes color to red.

Open the dialog by choosing Settings -> I/O Interfaces.

Choose a supported instrument by clicking on the instrument's name.

All available interfaces on the system will be displayed. Choose the interface type, the Port the measurement device is connected to from the drop-down list, and, if necessary, Baud rate and delimiter. The settings will be stored in the database.

Button	Description
Select Interface	This field selects the type of interface.
Port, Baud rate, message delimiter	Choose the interface port and its settings.
Test Connection	The serial interface will be opened, and an attempt to connect to the device will be made. When the connection to the device is established, the button changes color to green. If no connection could be established, the button changes the color to red.
<-	The changes will be stored and the window will be closed. The window Settings will be displayed again.

3.3 Result storage

Open the dialog by choosing *Results*.

The screenshot shows the 'ST®EOL - Results' window. At the top, there is a search bar, a filter dropdown set to 'By DUT ID', and a trash icon. The table below lists test results with columns for Name, Date, Result, DUT ID, Run ID, Min. Measurement, and Max. Measurement. The results are filtered by DUT ID 12312, showing several 'PASSED' entries for various test steps.

Name	Date	Result	DUT ID	Run ID	Min. Measuremen...	Max. Measureme...
> Testplan	2021-08-03	PASSED		973814258		
> Testplan	2021-08-03	PASSED		291730375		
> Testplan	2021-08-03	PASSED		857848834		
> Testplan	2021-08-03	PASSED		1586031301		
> Testplan	2021-08-03	PASSED		1027907210		
√ Testplan	2021-08-03	PASSED	12312	309602671		
High Voltage 500V AC [H...	2021-08-03	PASSED	12312	309602671	0 A	14.418 A
High Voltage 500V DC [...	2021-08-03	PASSED	12312	309602671	0 A	21.7402 A
Insulation Resistance Tes...	2021-08-03	PASSED	12312	309602671	0 Ω	99.9 kΩ
High Voltage 1000V AC [...	2021-08-03	PASSED	12312	309602671	0 A	14.418 A
High Voltage Test 1000V...	2021-08-03	PASSED	12312	309602671	0 A	21.7402 A
Insulation Resistance Tes...	2021-08-03	PASSED	12312	309602671	0 Ω	99.9 kΩ
> Testplan	2021-08-03	PASSED	12348	1380959936		

In this menu, you can setup additional storage places for result files.

This page logs the results of the tests via Test Plan and Single Test. Basically, the results are stored in the database. The measured values of the selected result can also be saved as a CSV file via the Save button in the upper right hand corner. An extra window opens where you can select the file path and give the file a name. To delete the selected results, use the button with the trashcan icon.

Value	Description
Name	The name of the Test Plan or the selected Single Test Step
Date	The test date/time is displayed in this field
Result	The test result is logged as "PASSED" or "FAILED".
DUT ID	The ID of the device under test.
RunID	Each single test or test with test plan receives a RunID for detailed logging and assignment of the test to the DUT.
Search bar	The test results can be searched by date or by Run ID using the search bar.

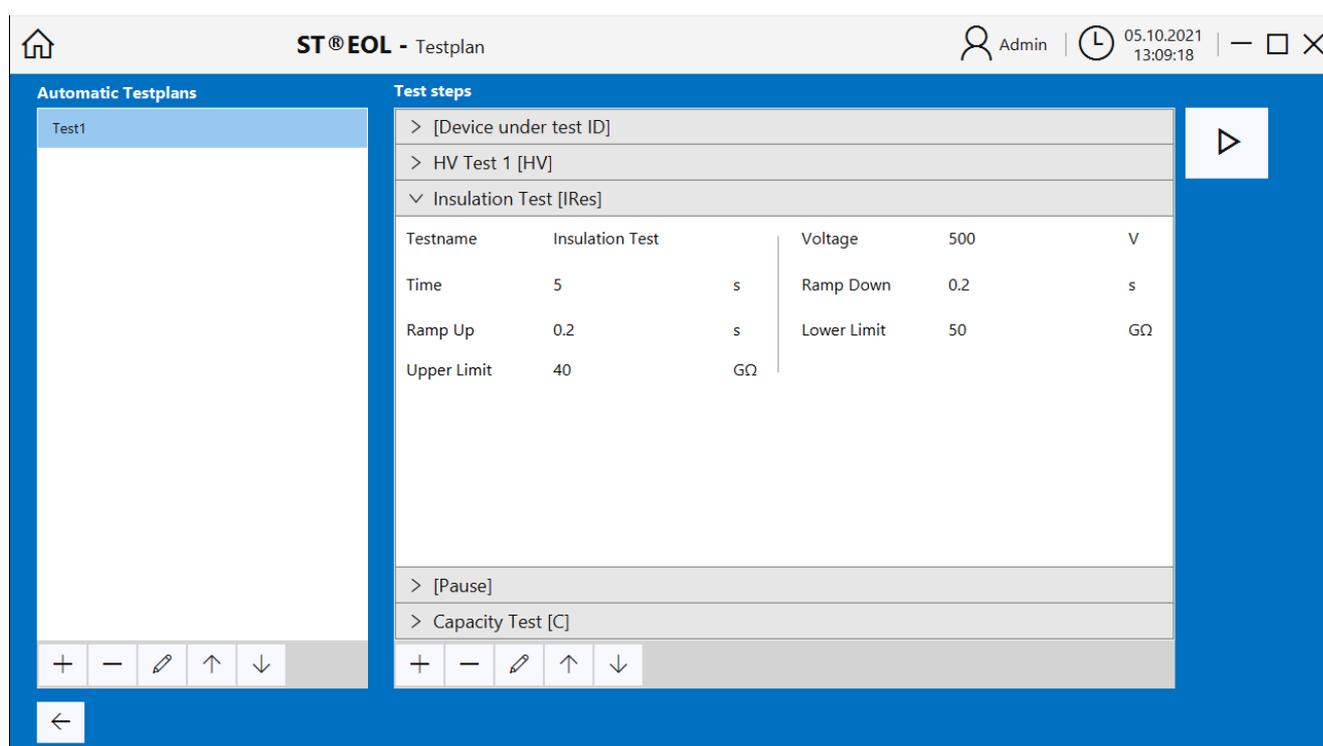
4 Test plan editing

This part of the manual is aimed at the persons who create and edit test plans.

It contains all information necessary to create test plans in accordance with the requirements for the test and the existing test types.

4.1 Administering test plans

Open the dialog by choosing Test with Test plan -> Edit Test plan.



On the left side, the currently available test plans are listed.

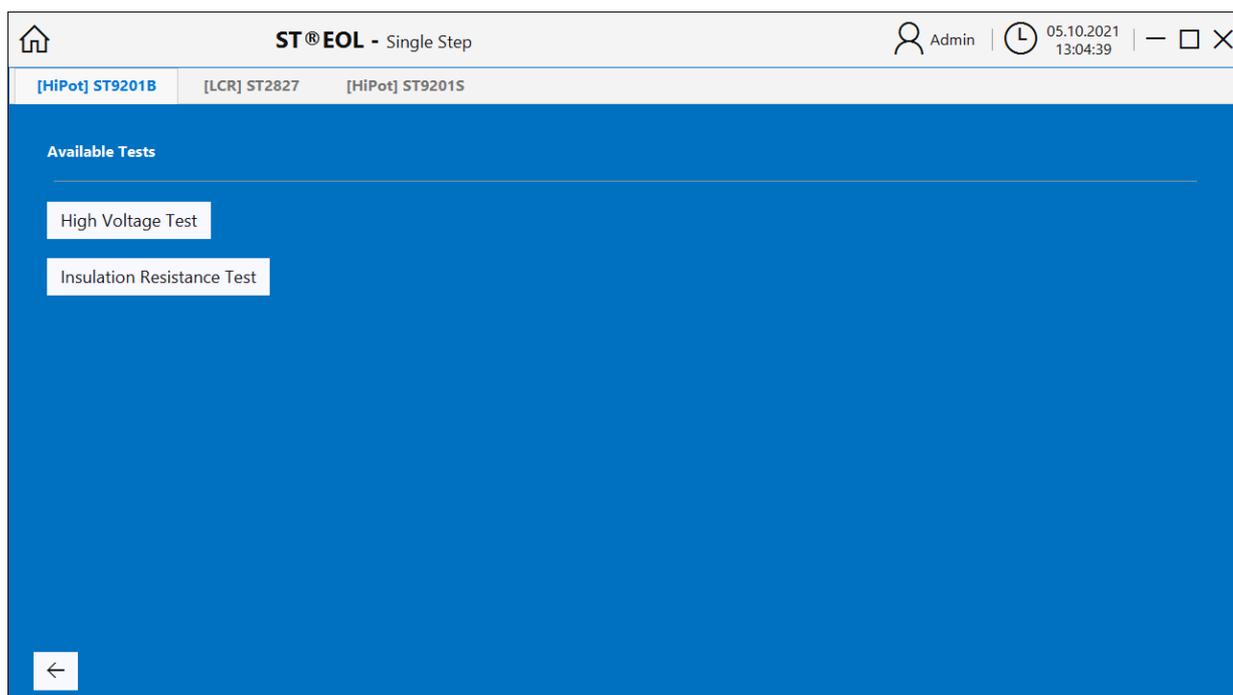
In the mid-upper part, the test steps of the selected test plan are displayed.

Button	Action
+	A new window opens for creating a new test plan (left pane) or a new test step (right pane).
-	The selected test plan or opened test step is deleted.
Edit (Pencil symbol)	The selected test plan or opened test step will be displayed in a new window where you can change the parameters.
Up ↑	The selected test plan or opened test step is moved up one step.
Down ↓	The selected test plan or opened test step is moved down one step.
<-	The window will be closed.

4.2 Adding test steps

When a new test is created, the program will automatically proceed to prompting for the first test step. Otherwise, select a test plan from the list in the left pane and click on the "+" icon below the "Test steps" pane to get here.

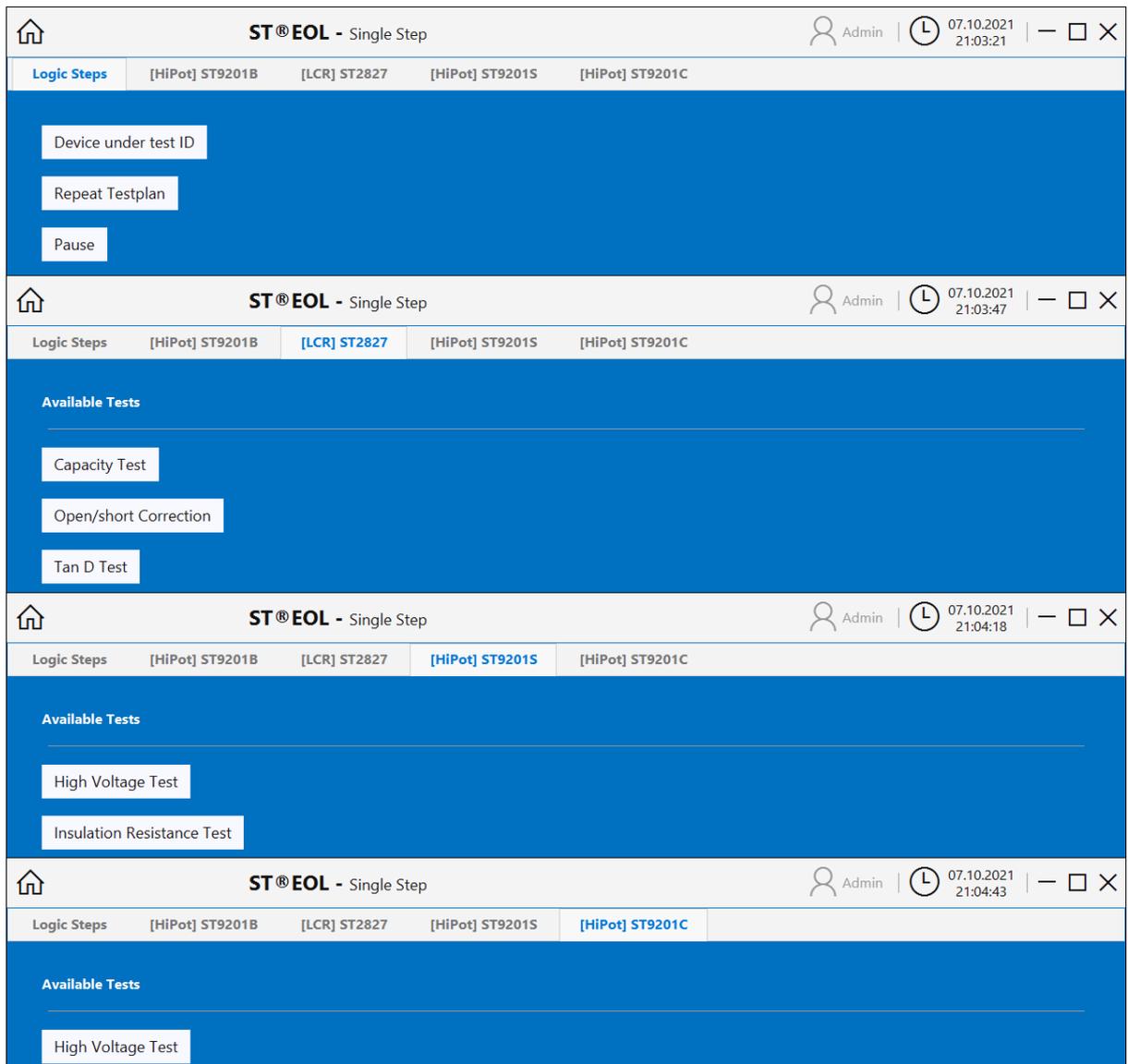
This will open the "Single Step" screen where you can select the device and choose from the tests the selected device has to offer. By default, the program will show the option buttons for the ST9201B:



Clicking one of those buttons will open the respective configuration page, which are described in the remainder of this chapter.

After setting the parameters on the configuration page, click the "+" button to add the step to the test plan, or the "<" button to go back to the previous screen.

The other devices' option buttons are shown below.
Choose a device by clicking on its name.

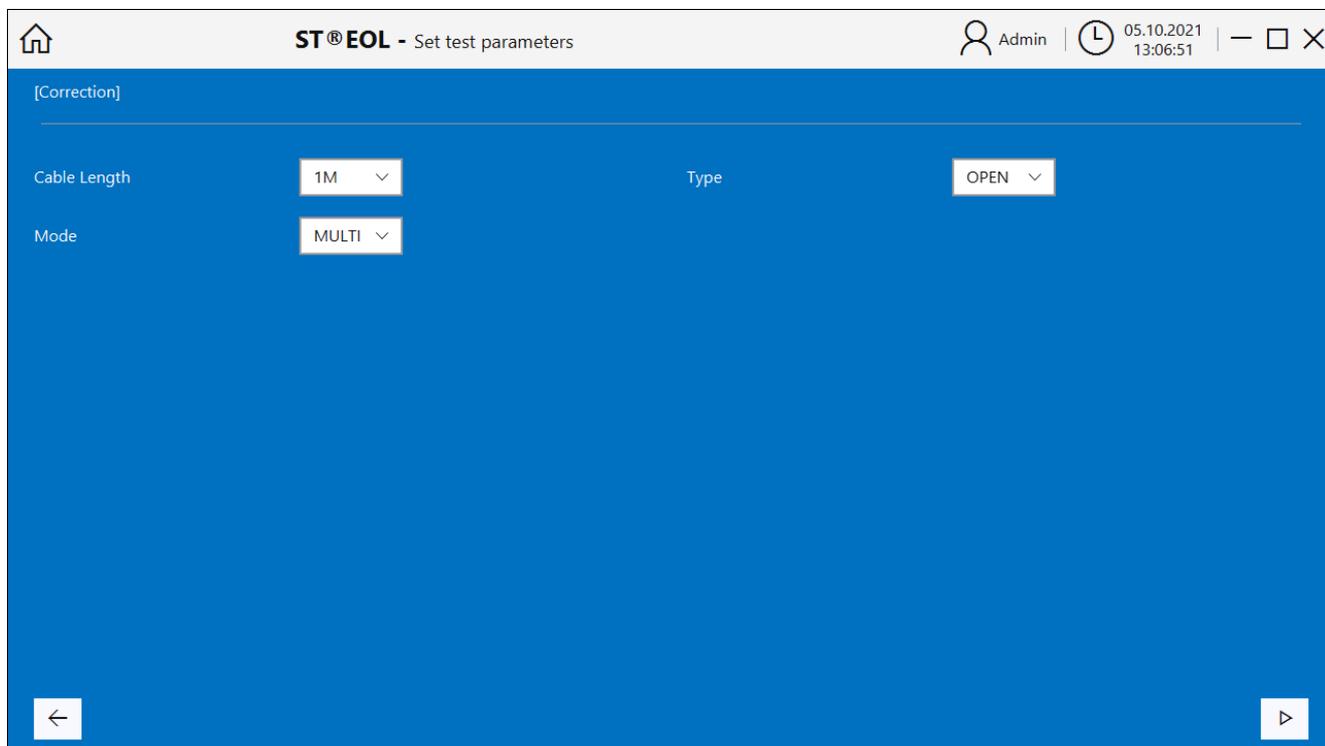


Clicking one of those buttons will open the respective configuration page, which are described in the remainder of this chapter.

After setting the parameters on the configuration page, click the "+" button to add the step to the test plan, or the "<-" button to go back to the previous screen.

4.2.1 Open/short correction (ST2827)

The Open/Short Correction test is configured using the following dialog. After setting the parameters, click the "+" button to add the step to the test plan.



Parameter	Description
Cable Length	Cable Length in Meter. Can be selected from 0m – 4m
Mode	Single/ multiple correction mode selection
Type	Please check the relay circuit. If the relay <i>and</i> test leads are open, the OPEN zero calibration can be performed. With short-circuited test leads or relays, the SHORT correction can be performed.

4.2.2 Capacity test (ST2827)

The capacity test is configured using the following dialog. After setting the parameters, click the "+" button to add the step to the test plan.

The screenshot shows a software window titled "ST@EOL - Set test parameters" with a user profile "Admin" and a timestamp "05.10.2021 13:06:28". The window content is titled "[Capacity Test]". It features a grid of parameters, each with a control element (text box, dropdown, or spinner):

- DUT ID:** An empty text input field.
- Function:** A dropdown menu set to "Cp-D".
- Range:** A dropdown menu set to "Auto".
- Frequency:** A spinner set to "1000" with a unit dropdown set to "Hz".
- Bias:** A spinner set to "0" with a unit dropdown set to "V".
- Level:** A spinner set to "1" with a unit dropdown set to "V".
- Speed:** A dropdown menu set to "SLOW".
- Time:** A spinner set to "2" with a unit dropdown set to "s".
- Lower Limit:** A spinner set to "0" with a unit dropdown set to "F".
- Upper Limit:** A spinner set to "0" with a unit dropdown set to "F".

Navigation arrows are visible at the bottom left and right corners of the dialog.

Parameter	Description
DUT ID	ID of the DUT. The ID will be stored in Results.
Function	For each measurement point, the ST2827 can test two parameters of an impedance component: one primary parameter and one secondary parameter. Use the primary parameter Cp for big or Cs for small capacitors.
Range	Selection of the measurement range. A specific range or Autoranging can be selected here.
Frequency	Frequency in Hertz. The measurement range of ST2827C spans from 20Hz to 1MHz with an increase or decrease of 0.01Hz.
Bias	Bias voltage in Volt. Provides internal DC bias voltage from -10V to +10V.
Level	The measurement level of ST2827 can be set as RMS voltage value of the measuring sine wave signal.
Speed	You can select test speed as FAST, MED or SLOW. Generally, the test result is more stable and accurate in SLOW mode.
Time	Test time in seconds
Lower Limit	Minimum allowed measurement value for PASS/FAIL evaluation.
Upper Limit	Maximum allowed measurement value for PASS/FAIL evaluation.

4.2.3 Tan Delta test (ST2827)

The Tan Delta test is configured using the following dialog. After setting the parameters, click the "+" button to add the step to the test plan.

The screenshot shows the 'ST@EOL - Set test parameters' dialog for a 'Tan D Test'. The parameters are configured as follows:

Parameter	Value	Unit
Testname	[Empty]	
Function	Cp-D	
Range	Auto	
Frequency	1000	Hz
Bias	0	V
Level	1	V
Speed	SLOW	
Time	2	s
Lower Limit	0	
Upper Limit	0	

Navigation buttons: Back (←) and Add (+).

Parameter	Description
DUT ID	ID of the DUT. The ID will be stored in Results.
Function	For each measurement point, ST2827 can test two parameters for an impedance component: one primary parameter and one secondary parameter. Choose a function that uses the dissipation factor D, which is $\tan \delta$, as secondary parameter.
Range	Selection of the measurement range. A specific range or Autoranging can be selected here.
Frequency	Frequency in Hertz. The measurement range of ST2827C spans from 20Hz to 1MHz with an increase or decrease of 0.01Hz.
Bias	Bias voltage in Volt. Provides internal DC bias voltage from -10V to +10V.
Level	The measurement level of ST2827 can be set as RMS voltage value of the measuring sine wave signal.
Speed	You can select test speed as FAST, MED or SLOW. Generally, the test result is more stable and accurate in SLOW mode.
Time	Test time in seconds
Lower Limit	Minimum allowed measurement value for PASS/FAIL evaluation.
Upper Limit	Maximum allowed measurement value for PASS/FAIL

4.2.5 High Voltage test (all ST9201 models)

The High Voltage withstanding test is configured using the following dialog. After setting the parameters, click the "+" button to add the step to the test plan.

The screenshot shows the 'Set test parameters' dialog for a High Voltage Test. The interface is blue with white text and input fields. At the top, it says 'ST@EOL - Set test parameters' and includes a user profile 'Admin' and a timestamp '05.10.2021 13:05:09'. The title of the dialog is '[HighVoltage Test]'. The parameters are as follows:

- DUT ID:** An empty text input field.
- Function:** A dropdown menu set to 'AC'.
- Channel:** Eight dropdown menus, each set to 'X'.
- Voltage:** A numeric input field set to '500' with a unit dropdown set to 'V'.
- Time:** A numeric input field set to '5' with a unit dropdown set to 's'.
- Ramp Down:** A numeric input field set to '0.2' with a unit dropdown set to 's'.
- Ramp Up:** A numeric input field set to '0.2' with a unit dropdown set to 's'.
- Lower Limit:** A numeric input field set to '0' with a unit dropdown set to 'A'.
- Upper Limit:** A numeric input field set to '0' with a unit dropdown set to 'A'.

Parameter	Description
DUT ID	ID of the DUT. The ID will be stored in Results.
Function	Choose AC or DC test. (ST9201C: AC only)
Channel (only ST9201S)	Select which channels are active. Channels set to <input checked="" type="checkbox"/> are connected to high voltage, channels set to <input type="checkbox"/> to low voltage, and channels set to X are disconnected in this step.
Voltage	Test voltage
Time	Test holding time in seconds after the set voltage is reached
Ramp Down	Time in which the voltage falls down to 0V, this will be divided into steps of 0.1 seconds
Ramp Up	Time in which the voltage rises to the test voltage, this will be divided into steps of 0.1 seconds
Lower Limit	Minimum current that has to flow for the DUT to pass (too low current can be a sign for bad connections)
Upper Limit	Maximum current that is allowed to flow for the DUT to pass

4.2.6 Insulation Resistance test (ST9201B, ST9201S)

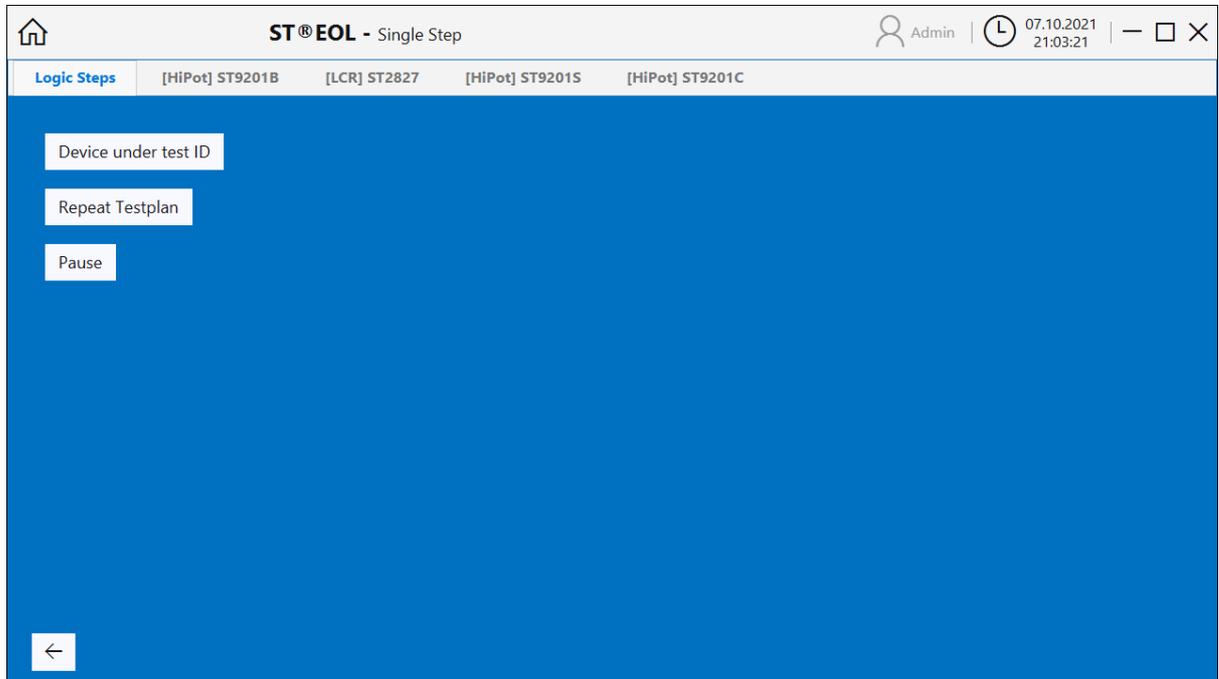
The insulation test is configured using the following dialog. After setting the parameters, click the "+" button to add the step to the test plan.

The screenshot shows a software window titled "ST@EOL - Set test parameters". The window has a blue background and a white header bar. In the header, there is a home icon, the text "ST@EOL - Set test parameters", a user profile icon labeled "Admin", a clock icon showing "07.10.2021 21:45:53", and window control icons (minimize, maximize, close). Below the header, the main area is titled "[Insulation Resistance Test]". It contains several rows of controls: "Testname" with a text input field; "Channel" with eight dropdown menus, each showing "X"; "Voltage" with a numeric input "500", a unit dropdown "V", and "Time" with a numeric input "5" and a unit dropdown "s"; "Ramp Down" with a numeric input "0.2" and a unit dropdown "s", and "Ramp Up" with a numeric input "0.2" and a unit dropdown "s"; "Lower Limit" with a numeric input "0", a unit dropdown "G", and a unit dropdown "Ω", and "Upper Limit" with a numeric input "0", a unit dropdown "G", and a unit dropdown "Ω". At the bottom left is a back arrow icon, and at the bottom right is a plus sign icon.

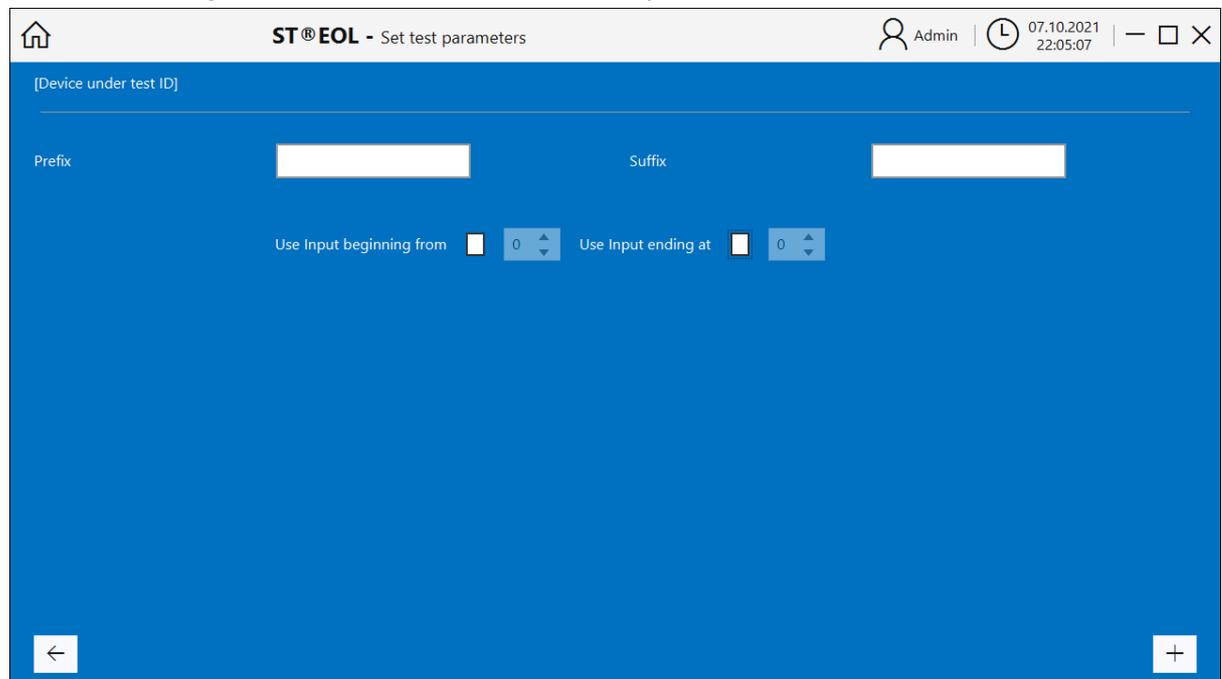
Parameter	Description
DUT ID	ID of the DUT. The ID will be stored in Results.
Channel (only ST9201S)	Select which channels are active. Channels set to <input checked="" type="checkbox"/> are connected to high voltage, channels set to <input type="checkbox"/> to low voltage, and channels set to X are disconnected in this step.
Voltage	Test voltage
Time	Test holding time in seconds after the set voltage is reached
Ramp Down	Time in which the voltage falls down to 0V, this will be realized in steps of 0.1 seconds
Ramp Up	Time in which the voltage rises to the test voltage, this will be realized in steps of 0.1 seconds
Lower Limit	Minimum resistance that is allowed for the DUT to pass
Upper Limit	Maximum resistance that is allowed for the DUT to pass (too high resistance can be a sign for bad connections)

4.2.7 Logical Steps

The logical (no interaction with the test equipment, running on the controlling computer only) steps are configured using the following dialog. After setting the parameters, click the "+" button to add the step to the test plan.

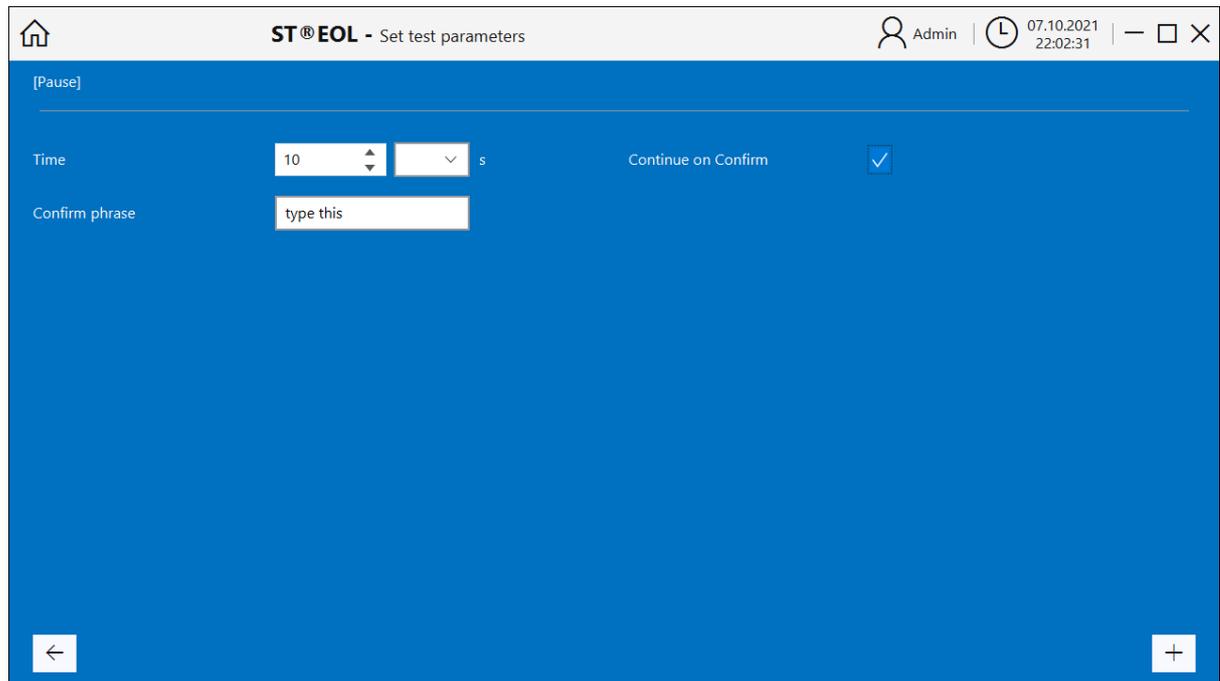


You can assign an ID to the DUT with the step Device under test ID.



The test step will prompt for a DUT ID and modify it according to the settings in this page. If enabled, only the characters between the beginning and ending character position will be used, e.g. to cut a portion out of a longer barcode. Prefix and suffix will be added.

The pause between tests is configured using the following dialog.



Parameter	Description
Time	Time to wait before proceeding to the next step
Continue on confirm	If checked, the test will only proceed to the next step after input of the phrase in the next field
Confirm phrase	Text that has to be entered to proceed to the next step

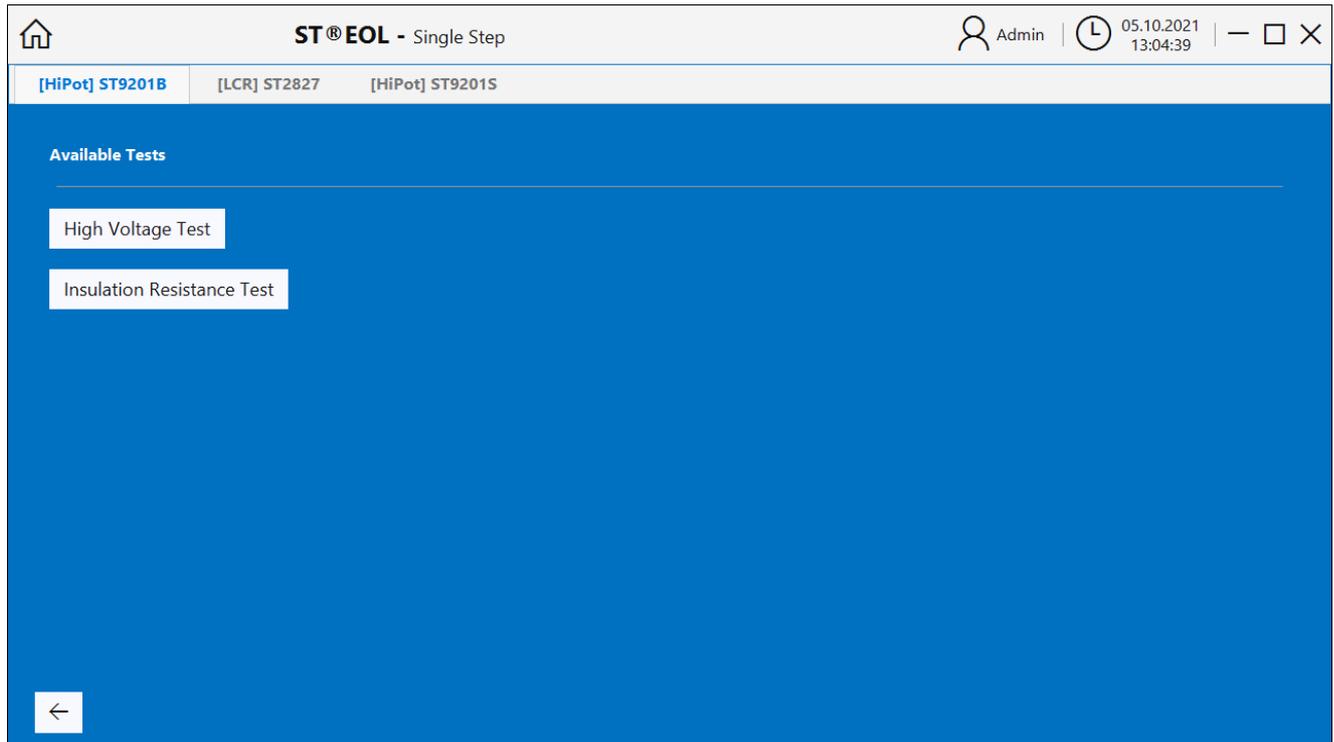
5 Testing

This part of the manual is aimed at those persons using the program for testing.

This part describes the general procedures for operation. Regarding to the many different situations, this part cannot fully describe the concrete situation at a test station.

5.1 Individual Test

Open the individual test dialog by choosing Test with Single Step.

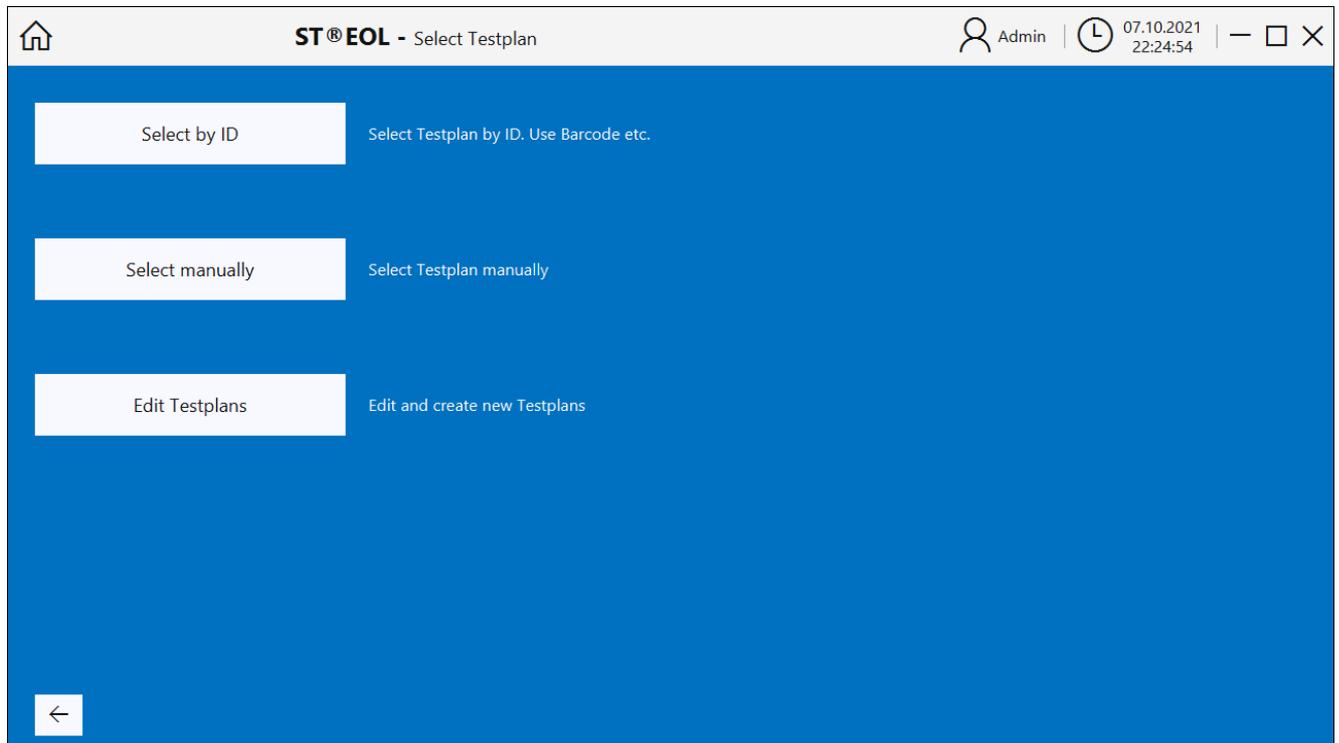


There is a button for each device and test type.

The windows for each device and the windows for setting the test parameters are the same as the windows for creating the test plan described in the previous chapter.

5.2 Test plan

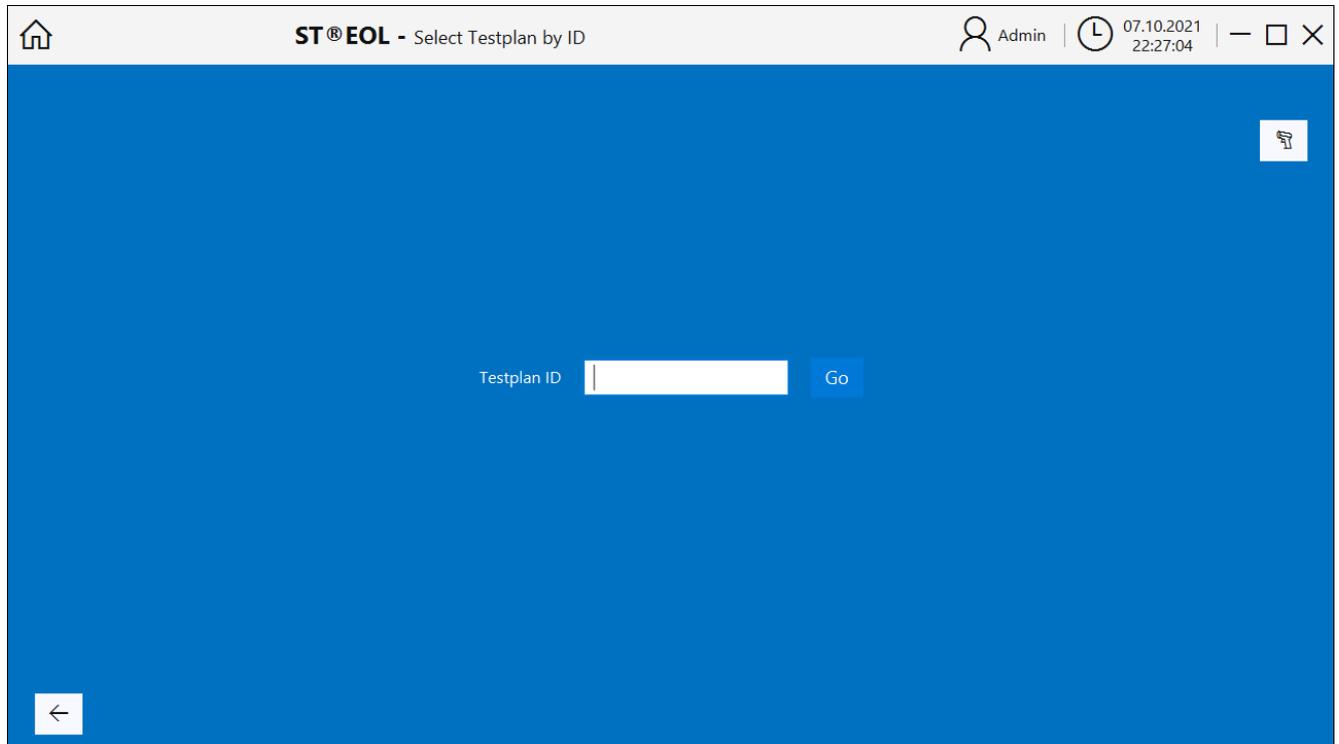
Open the dialog by choosing Test with Testplan.



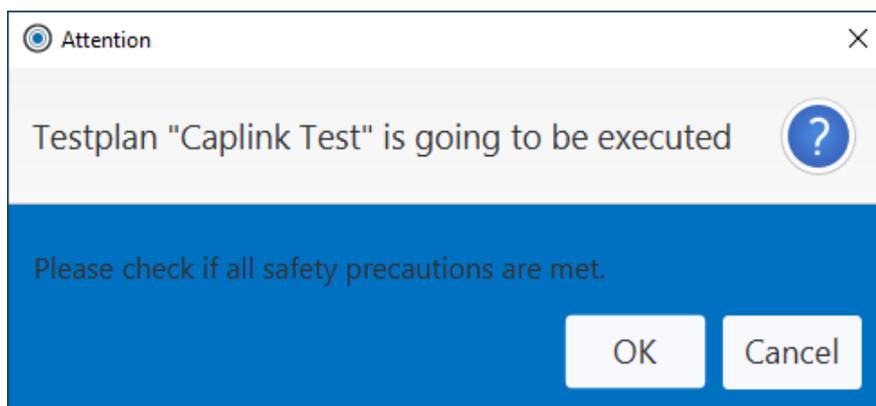
Button	Action
Menu (Home symbol or left arrow)	The main menu will be displayed.
Select by ID	The window for automatic test plan selection by test plan ID will be opened. Using this selection, the test plan will be closed after the test of a single unit under test is completed.
Select manually	Opens the window for manual test plan selection.
Edit Testplan	Opens the window for test plan administering.

5.2.1 Automatic test plan selection by test plan ID

Open the dialog by choosing Select by ID.



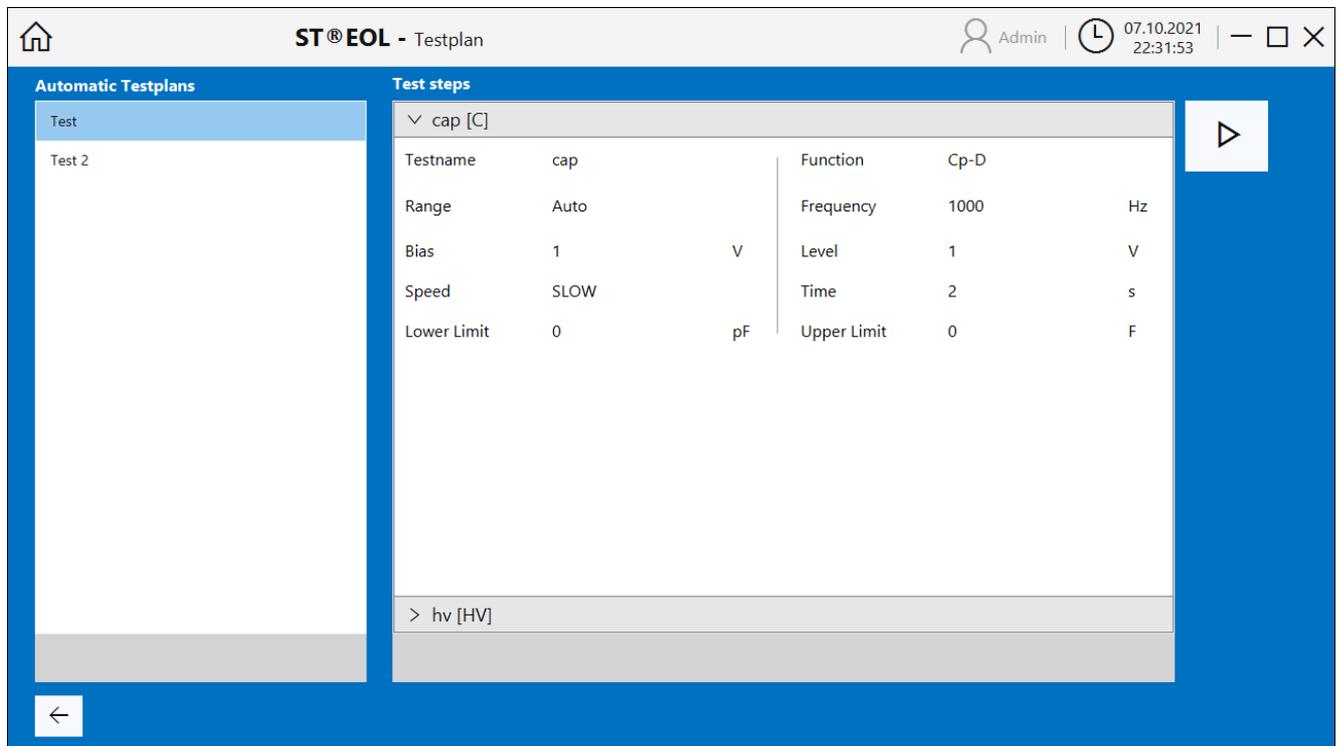
After entering the test plan ID, the following window will open, displaying the name of the test plan:



After confirming the dialog with OK, the test will start.

5.2.2 Manual test plan selection

Open the dialog by choosing Select manually.



The manual test plan selection window is similar to the test plan editing window described in chapter 4, just without any options to edit the test plans. Select a test plan from the list in the left pane and start the selected test by clicking the ▶ button on the upper right side of the window.

6 Notes for safe operation

6.1 General safety instructions

 **DANGER**

- Every day before starting the test work, the perfect condition of the mains supply cable and the test item connection cables must be visually checked.
- Defective parts must be replaced or taken out of service.
- No commissioning in case of obvious defects!
- Opening the device and repairing it is only allowed by workshops authorized by Sourcetric! There are no user-replaceable parts inside the device.
- The relay matrix STM is a device of protection class I.
- The protective earth conductor connection of the mains cable used and the mains socket must be faultless. Any interruption of the protective conductor can cause the device to become dangerous. Interrupting the protective earth conductor is therefore not permitted.
- Ambient humidity must not exceed 70% (non-condensing), otherwise leakage currents and flashovers may occur during the test setup.
- After transport, the device must not be used until it has been acclimatized, otherwise condensation may occur within the device, which in turn can lead to leakage currents and flashovers.

6.2 Special safety instructions for high-voltage testing and other types of hazardous testing

6.2.1. Protection of outsiders

 **Danger**

Outsiders are to be protected from accidental contact with the test object (and thus from contact with the high voltage) by:

- Closing off the test area
- Warning Signs
- Warning light, red-green combination
- Distances to high voltage according to EN 50191
- Briefings

6.2.2 Protection of the test operator


DANGER

The testing person is to be protected by:

- Use of two test guns, one in each hand.
(It is not permitted to work with only one test gun or to carry both test guns in one hand).
- Potential-free high voltage (principle of isolating transformer); test object must therefore be set up isolated against ground potential, otherwise this protection is ineffective!
- Emergency stop, mounted outside the barrier
- Execution of the test equipment and accessories
- Briefings

6.2.3 Testing with safety test cage

If a safety test cage (e.g. SICAB or DOCAB) is used, it comprises a "test station with forced contact protection".

The test setup is significantly simplified. Please also observe EN 50191 here.


DANGER

For test stations with forced contact protection (test cage), no dummy plugs or bridging plugs which inadmissibly bridge the safety circuit may be used!

The test cage can only be unlocked through the software by applying 24V from the relay matrix. While the DUT is not discharged, the unlock function is blocked!

Therefore, the correct function of the safety circuit should always be checked before starting the test:

- Warning light green: Safety cage open
- Warning light red: Safety cage closed
- Lay the control and test lines of the test cage in such a way that damage and ground faults can be excluded!

The safety instructions of the test cage (see its documentation) must also be observed.


DANGER

Capacitances within the test object are charged with life-threatening high voltage during the test procedure. Therefore, the test setup must ensure that these are safely discharged. All capacitances that can store a dangerous amount of energy must be safely connected to *both* poles of the test voltage (and thus to the discharge circuit), or, if they are not involved in the test, short-circuited. If a contact becomes detached *during* the test procedure, and this prevents the regular discharge of the DUT, the test cage may only be opened after an appropriate decay time or with protective equipment.



SOURCETRONIC GMBH
Fahrenheitstrasse 1
28359 Bremen
Germany

T +49 421 2 77 99 99
F +49 421 2 77 99 98
info@sourcetric.com
www.sourcetric.com

CE