FLUKE®

TruTest™
Data Management Software

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Table of Contents

Introduction

TruTest™ Data Management Software (the Software) is a new generation of software for managing electrical system testing data. The Software supports data from Fluke DMS software or from Beha-Amprobe ES Control software and these databases can be automatically converted. Use the Software for instrument management.

Use the Software to:

- Collect data from instruments or from files transferred from instruments.
- Manually add data.
- View data that is automatically assigned to hierarchical tree topology.
- View data in printable certificates (designed in accordance with national standards) and reports.
- Send data to instruments (when supported by the instrument).

The Software supports these instruments:

- Fluke 6500
- Fluke 6500-2
- Beha-Amprobe GT-600
- Beha-Amprobe GT-650
- Beha-Amprobe GT-800
- Beha-Amprobe GT-900

Modules supported:

- PAT module -software module for management of testing data for portable appliances.

Each element is presented as a single tree node. A hierarchical tree topology represents client, sites, locations, and appliances. Select an element to show the properties of each node. To maintain the tree topology, use: add node, delete node, duplicate node, duplicate subtree and node edit.

All screenshots in this manual are for reference only. The screens may differ from the latest version of the software or depending on language and setup.

Note
Some parts of the program can be changed without notice in newer software versions, and therefore, might differ from the information in this manual.

Safety Information

This software does not contain any safety related content.

⚠ Caution

Observe all operating instructions.
The operating instructions contain information and notes that are necessary for correct operation and use of the software. Read the operating instructions attentively and follow them in all points before the installation and use.

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Licensing

The complete license agreement is provided in the front of this manual. Licensing is provided to the user during installation procedure.

Software Installation

This section provides information on system requirements, Software installation procedure, update procedure and software removal.

System Requirements

Type	Requirement
Operating System	• Microsoft Windows 10, 64-bit and 32-bit (recommended) • Microsoft Windows 8/8.1, 64-bit and 32-bit • Microsoft Windows 7 with Service Pack 1, 64-bit and 32-bit
System Memory	• Minimum 4 GB RAM (64-bit) or 2 GB RAM (32-bit)
Hard Disk Space	• Minimum 2 GB available hard disk space,
Display Resolution	• Minimum screen resolution 1366 x 768
Communication Interfaces	• USB

The Software requires .NET Framework. You may use .NET Framework 4.6.1 or newer:

https://dotnet.microsoft.com/download/dotnet-framework/net461

Microsoft Access 2016 Runtime is required for the database conversion:

https://www.microsoft.com/en-us/download/details.aspx?id=50040

Install the Software

To install the Software:

1. Choose an installation file to download.:

   fluke.com/trutestsoftware

   beha-amprobe.com/software

   Note
   *Close all programs that are running before you start the installation.*

2. Browse to the downloaded file location and double-click the **.exe** file.

   The installation program starts and guides you through the installation process.

3. Select the language and click **OK**.

4. On the Welcome screen, click **Next** to continue the installation.

5. On the License Agreement screen, read the information and click **I Agree** to start the installation.

   For a printed copy of the license agreement, click **Print** and manage through your operating system.

6. When the Installation Complete screen shows, review the information, and click **Next**.

7. To start the Software after the installation completes, make sure the Run option is selected.

8. Click **Finish** to complete the installation.

Update or Reinstall the Software

You can re-install the Software for updates. When the software is reinstalled, all data remains on the PC.

To reinstall or update the software:

1. Choose an installation file to download:

   fluke.com/trutestsoftware

   beha-amprobe.com/software

   Note

   Close all programs that are running before you start the installation.

2. Browse to the file location and double-click the **.exe** file.

3. On the Welcome screen click **Next** to continue the installation.

   A new screen indicates the software is already installed.

4. Select an option:

   - **Add/Reinstall components** – to reinstall the existing installation. Continue as for a new installation.

   - **Uninstall before installing** – to remove the current installation.

5. If you selected **Uninstall before installing**, the system prompts you to continue. Select:

   - **Yes** – to continue the uninstall.

   - **No** – to back out of the uninstall.

6. If you select **Yes**, the system indicates the file location. Click **Uninstall** to continue.

7. When the uninstall is complete, the system prompts with the completion screen, click **Finish**.

8. Click **OK** to close the confirmation message.

9. Continue as for a new installation.

Remove the Software

To remove the Software:

1. Navigate to the Windows Start Menu or use the Control Panel to **Uninstall or change a program**.

2. Choose Uninstall TruTest™. See Figure 1.

Figure 1. Software Removal: Windows Control Panel
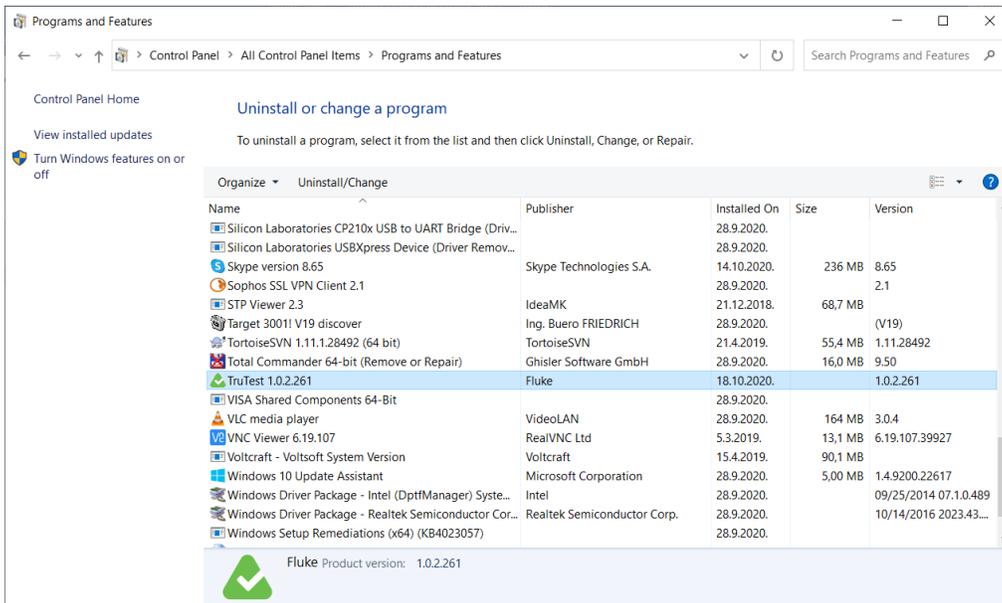
3. Select **Yes** in the confirmation message.

Getting Started with the Software

The first time you start the Software, you must activate the license. Then you will set up the system by creating or converting an existing database.

Activate the License

The license wizard starts automatically the first time the Software runs.

To activate your license:

1. Click **Activate your license**.

2. Choose how to activate the license:

   - **Activate Online** – activate the license with a license key.

   - **Activate Offline** – activate the license with a license key and a computer key.

3. Read the privacy policy and click **I consent**, then click **Next**.

4. If you selected **Activate Online**, the system prompts you to enter the license key.

   a. Enter the license key.

   b. Click **Activate**.

   Note

   Information about the status of the online activation shows when the process is complete.

5. If you selected **Activate Offline**, the system prompts you to enter the license key.

   a. Enter the license key.

   b. Enter the computer identifier.

   For more information on the computer identifier, contact Fluke Technical Support.

   c. Click **Activate**.

Create the Database

When the software is activated, you can begin creating the database. The options are:

- **New database** – start with a new database. Use this for a first-time installation.

- **Restore database** – restore a backup of an existing database. Use this option if a backup database exists.

- **Convert database** –convert an existing Fluke DMS or ES Control database. This option requires that Microsoft Access Runtime is installed. These databases required Microsoft Access Runtime.

Create a New Database

To create a new database:

1. From the Database Creation screen, select **New database**, and click **Next**.

   When the database creation is complete, a login screen shows.

2. To access the Software, click **Login**.

Restore a Database

To restore a database:

1. From the Database Creation screen, select **Restore database**, and click **Next**.

    The Software prompts for an existing database.

2. Browse to a previously created backup file and click **Restore**.

3. Click **OK** on the notification.

4. Click **Login** to proceed. Currently there are no created users.

Convert an Existing Database

Database conversion is supported for these software versions and later:

-   Fluke DMS (starting from v1.5)
-   Beha-Amprobe ES Control (starting from v2.4)

Customers and tree structures are converted along with nodes properties but without saved tests and measurements. During conversion, Auto-Test Codes that are not in a list of defined Auto-Test Codes are converted with these rules:

-   If Auto-Test Code is ≥ 500, the value stays the same.
-   If Auto-Test Code is < 500, the value is converted to first free value that is ≥ 500.
-   In the panel that displays information about various codes on different instrument types, Auto-Test Code values on the instrument stay the same as in DMS and ES Control software if the instrument type supports that Auto-Test Code. Otherwise, the Auto-Test Code specified on instrument type is *Undefined*.

To restore a database:

1. From the Database Creation screen, select **Convert database**, and click **Next**.

    The Software shows the Database Conversion Tool screen.

2. Review the information and click **Next**.

    The conversion tool opens. See Figure 2.

Figure 2. Database Conversion Tool: Conversion Configuration
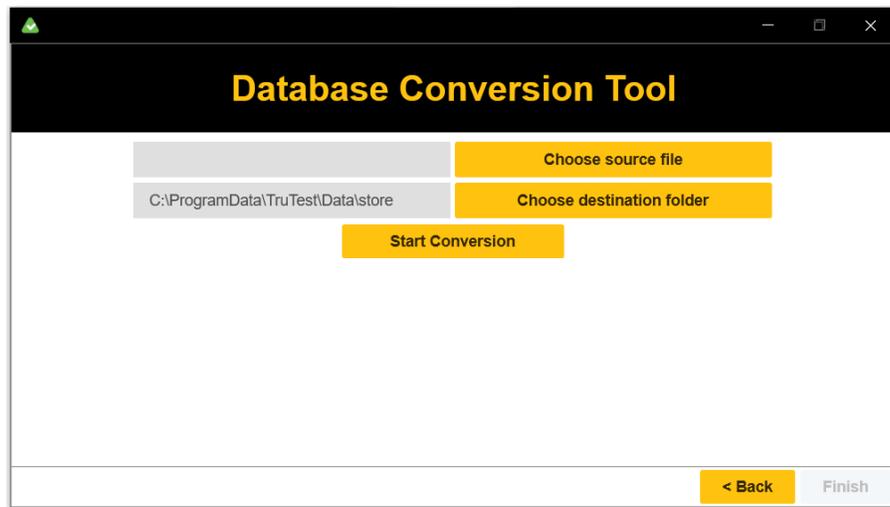
3. Browse to the source database file.

4. Browse the destination folder for the converged database.

5. Click **Start conversion**.

6. When the conversion completes, click **Finish**.

7. Click **Login** to proceed. Currently there are no created users.

Note
For first use, no users are created.

Default Settings

The first installation of the software is configured with this default configuration:

- Selected country is Germany
- Selected language is English
- Selected report language is English

Select the Client and Module

The Software collects data from instruments and provides a view of the collected data. Measurement data shows in a tree view. This is the main module view in which menus for various operations are provided. You can create the tree structure to see a detailed overview of the selected client organization including the properties that are tested by the instruments.

Select the client and the active module to view.

Sample Database

The Software has a Sample Database (demo database) that contains a predefined set of clients, including their sites, locations, and appliances. Use the Sample database for software evaluation, training, and demonstration.

To use the sample database:

1. On the initial client form, click **Sample Database**.

   The sample client shows. See Figure 3.

Figure 3. Sample Database: Client Form
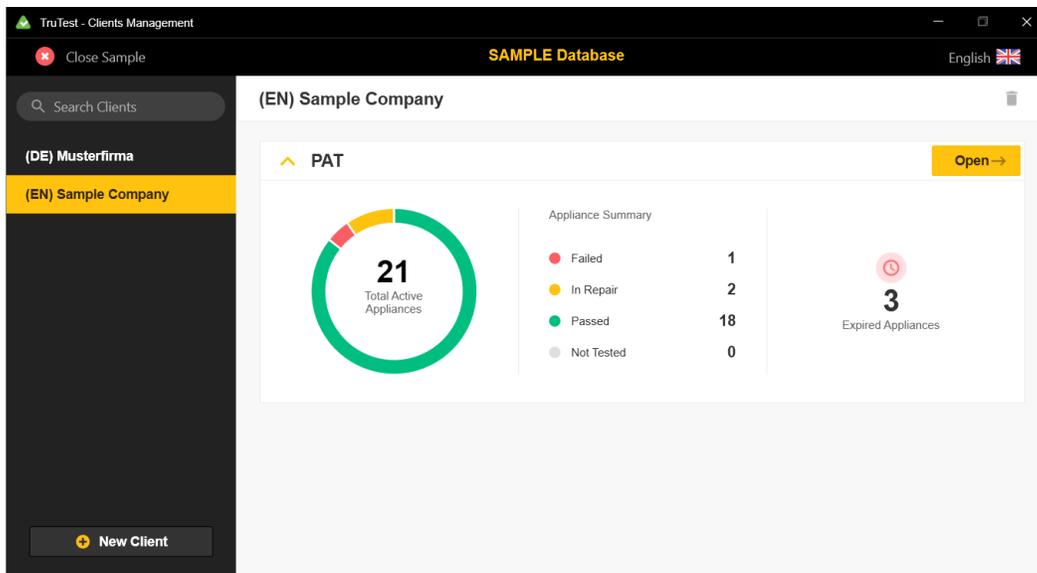
2. To open the module measurement dashboard, click **Open**.

   The sample module shows. See Figure 4.

   To exit the sample database, click **Close Sample**.

Figure 4. Sample Database: PAT Module Dashboard
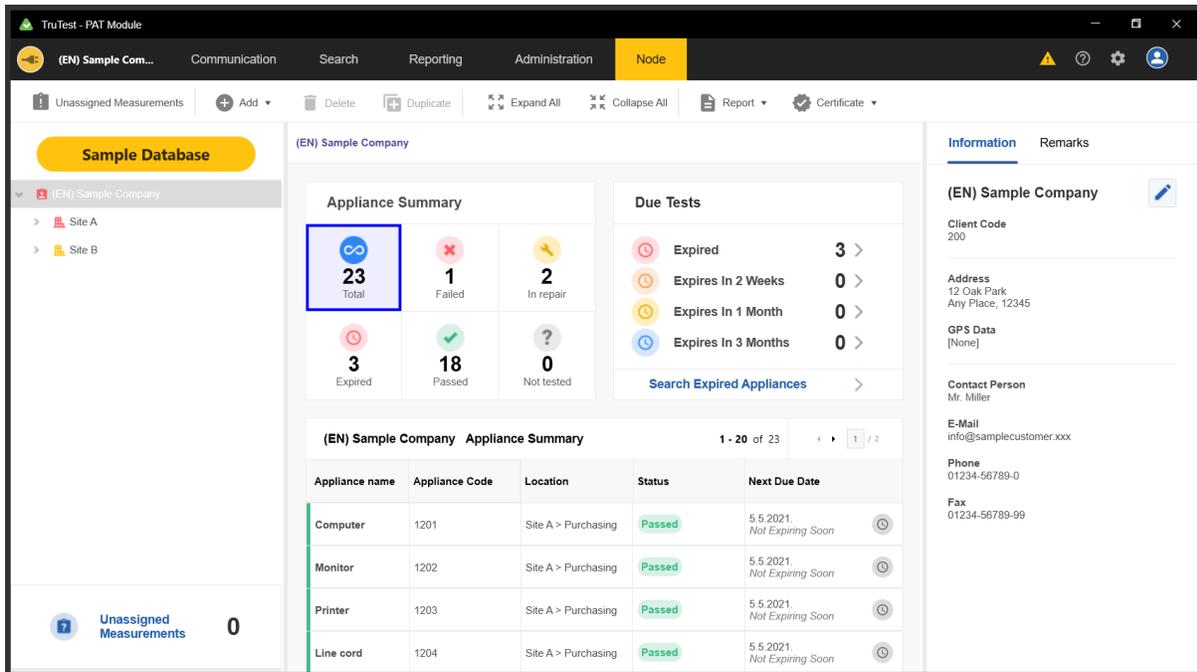
Add the First Client

After the initial installation, there are no clients. Therefore, you must create clients to add the module used by a client. To see client modules, select the client first. Only active client modules are shown.

To add a client:

1. On the empty client form, click **New client**.

2. Enter the client name.

3. Click **Save** to finish adding the client.

   An empty module is created.

4. Click **Open** to open the module measurement data main window.

   The module section shows statistical data about measurement data stored for the module.

Close Modules and Clients

To close the module view:

- Select and then select **Close Client**.

To close the Client module:

- Select and then select **Exit Program**.

User Interface Principles

The client data in the Software includes:

- Data provided by user of the Software
- Measurement data transferred from instruments

Table 1 shows how the data is organized in the Module Dashboard.

Table 1. Example of the Module Dashboard
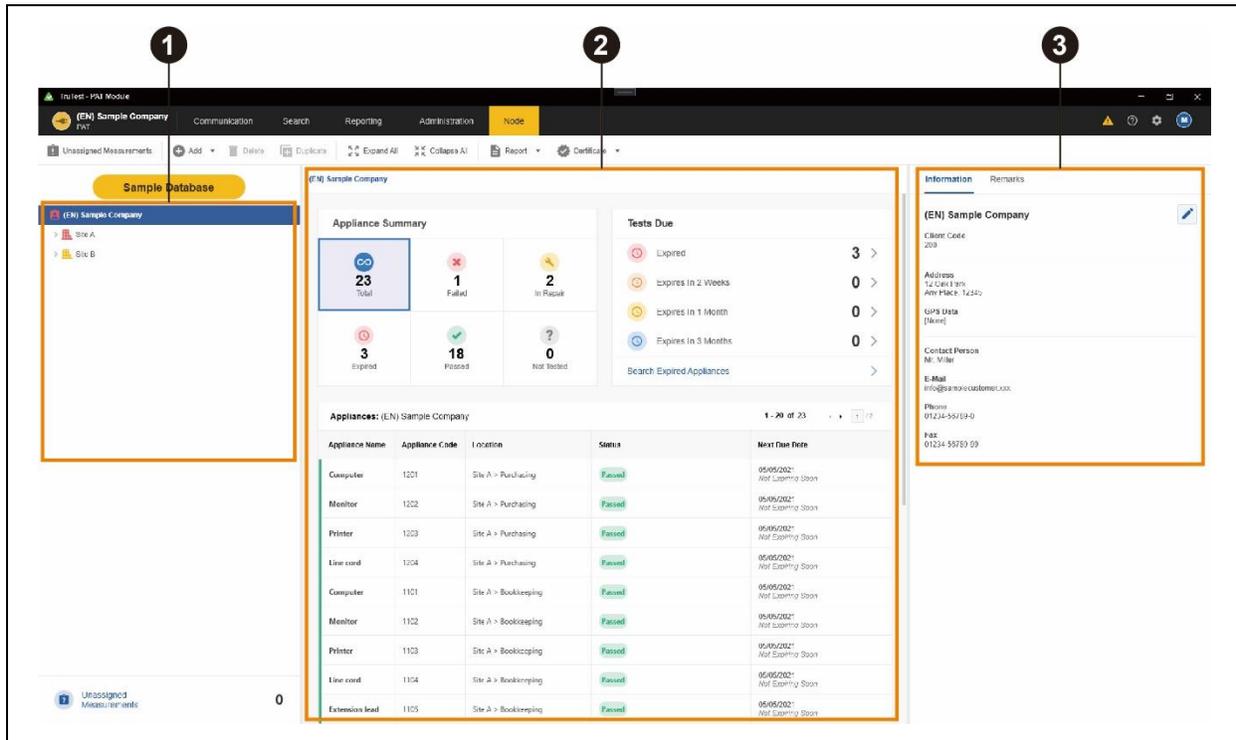
Item	Description
❶	**Client tree**–shows overall client information in a hierarchical way. In addition, there is detailed information of the node's status types.
❷	**Central panel** –information shows based on the selected node type and represents dashboard and appliance summary, or test results
❸	**Node properties** – detailed properties of the selected node. The tabs are • *Information* - table of properties of the selected node • *Remarks* - attachment list for the selected node

Client Tree

The Software presents the data in a tree view. In the tree, you can expand or close parent nodes to open or close child nodes on the next hierarchical level.

When a node is selected, information for that node shows along with the properties, a summary and, in case of appliance node type, the test list.

Types of Nodes

Table 2 shows the node types and testing modules.

Table 2. Node Types and Software Modules

ICON	NODE TYPE	MODULE
		PAT
	CLIENT	✓
	SITE	✓
	LOCATION	✓
	APPLIANCE	✓

Hierarchical Rules

The tree structure is created as a hierarchical organization. Each parent can have an arbitrary number of child nodes. The tree hierarchy is made from rules that create parent-child relationships between various node types.

These are the hierarchy principles:

- There is one CLIENT node (root) on the top of the tree structure. Different tree structures can exist in various testing modules (for example PAT) for the same client.
- The next level is SITE. One CLIENT can have multiple child SITE nodes.
- Down another level, is a LOCATION node. Fluke recommends using the LOCATION node for better client structure, company parts, or building floors/rooms.
- Nodes on the next level is dependent on module type:

- o In the PAT module:
    - o APPLIANCE node type is required.

Node Status

A parent node shows the status that is a summary of the child nodes. For example, the LOCATION node type status summarizes the statuses of the child APPLIANCE nodes.

An APPLIANCE node has one of the statuses shown in Table 3.

Table 3. Appliance Node Status Summary

NODE STATUS	NODE ICON COLOR	DESCRIPTION	SEVERITY	SYMBOL
PASSED	GREEN	All test steps of the last measurement were successfully executed (the status of all test steps of the last measurement are *Passed*). *Appliance Status* property of the APPLIANCE node is set to *in use*.	Third	
FAILED (NOT PASSED)	RED	At least one test step in the last measurement failed (status of at least one test step of the last Auto-Test is *Failed*). *Appliance Status* property of the APPLIANCE node is set to *in use.*	First	
IN REPAIR	YELLOW	*Appliance Status* property of the APPLIANCE node is set to *in repair*.	Second	
NOT TESTED	GRAY	The node does not have any tests performed. *Appliance Status* property of the APPLIANCE node is set to *in use*.	Least	
NOT IN USE	LIGHT GRAY	*Appliance Status* property of the APPLIANCE node is set to *not in use* to exclude this Appliance node from the test results summary.	Least	

Expired Appliances

An appliance is a candidate for testing if it is *expired*. Appliances are expired if any of these are true:

- Next Due Date property is expired (older than today's date)
- Status is NOT TESTED
- Status is IN REPAIR
- Status is FAILED

Choose a method to open the list of due dates:

- Click any of the shortcuts in the *Expired* subpanel of the dashboard for location type nodes (CLIENT/SITE/LOCATION). This shows the list of all tests which have a due test time older than selected expiration date.
- Click **Search > Expired Appliances**. A search window opens. Set a time frame between *From* and *To,* for displaying Appliances which have Next Due Test date within the time frame. Or use the search buttons on the screen, see *Search Menu.* You can change the list of selected nodes.

Node Menus

Use the context menu on the selected node for more node actions. Node menu options are shown in Table 4.

Table 4. Context Menus

Client	Site	Location	Appliance
Add Site	Add Location	Add Appliance	Add Test
Delete	Delete	Delete	Delete
Duplicate	Duplicate	Duplicate	Duplicate
Expand Node	Expand Node	Expand Node	Expand Node
Collapse Node	Collapse Node	Collapse Node	Collapse Node
Report	Report	Report	Report
Certificate	Certificate	Certificate	Certificate

Note

*Node menu options **Expand Node, Collapse Node** and **Rename** are only on node context menus. Node menu options **Expand All** and **Collapse Node** and **Rename** are only on the node menu.*

Naming Rules

Every node has a visible caption on the right side of the graphical symbol. For all the node types, when a new node is created, the default name is the node type preceded with the prefix *New* (for example: *New Site*). A duplicated node has suffix *(1)* added to the name (for example: the next *New Site* becomes *New Site (1)*). A second next duplicate will have suffix *(2)* (for example: *New Site (2)*). Appliance nodes additionally have a *Code* parameter value at the end of the name (for example *New Appliance_5*).

Central Panel

The Central panel is structured differently for location type nodes (CLIENT/SITE/LOCATION) and APPLIANCE nodes.

CLIENT/SITE/LOCATION node:

- Elements of the dashboard are *Appliance Summary* and *Due Test* panels*.*
- *Appliance Summary* shows the list of associated appliances under this geographical node.

APPLIANCE node:

- Elements of the dashboard for Appliance node are the selected node properties.
- *Measurements List* for appliance node shows the list of associated measurements.

Test Results Presentation

CLIENT/SITE/LOCATION node:

- *Dashboard - Appliance Summary* subpanel shows these counters:
  o *TOTAL* - total number of appliances
  o *FAILED* - number of appliances with failed last tests
  o *IN REPAIR* - number of appliances with *in repair* status
  o *EXPIRED* - number of appliances with expired test interval
  o *PASSED* - number of appliances with passed last tests
  o *NOT TESTED* - the number of appliances without measurement data
- *Dashboard - Due Test* subpanel shows these search shortcuts:
  o *EXPIRED* - the list of appliances with expired test interval
  o *EXPIRED in 2 Weeks* - the list of appliances with expired test interval in 2 weeks
  o *EXPIRED in 1 Month* - the list of appliances with expired test interval in 1 month
  o *EXPIRED in 2 Month* - the list of appliances with expired test interval in 2 months
  o *Search Expired Appliances* - shortcut to Search Expired Appliances window

Appliance summary panel shows list of appliances associated to the selected CLIENT/SITE/LOCATION node or appliance data to the associated appliance node. The color of the right border is determined by the current status.

APPLIANCE node:

Appliance summary dashboard shows this appliance data: *Name, Code, Status and Next Due Date.* The color of the right border is determined by the current status.

Measurement List shows the list of executed tests sorted by time (the newest is on top of the table). Right border of the measurement row is colored by the final measurement status.

Measurement Detailed Presentation

Click ⊕ for the selected measurement to show a detailed view. The detailed view has these tabs:

- *Test Steps* – shows a list of test steps (*Title)*, measured value (*Result)*, *Limit* value, *Parameter,* and result information *(Passed*). See Figure 5.

Figure 5. Auto-Test Detailed View: Test Steps Tab

* *Information* – shows a list of various information related to the Appliance under test.
* *Remarks* – shows a list of saved remarks entered by the software user associated with the measurement.

Node Properties

This part of the Software user interface presents properties for selected node.
All nodes have these property groups:

* *Information* – all specific information for selected node type (identification, contact, production data, etc.).
* *Remarks* – includes remark text and attachments (pictures, documents, audio and video). Remarks are optional but can provide useful explanatory information.

Some fields in the Information group are mandatory. When node is selected, the Information group shows. Remarks are optional.

Information Properties

Every node type has its own set of predefined Information properties.
Required fields for CLIENT, SITE, and LOCATION are:

* *Name* – the name of the node.
* *Code* – the unique string within the group of nodes of the same type within the tree structure

The software generates the *Name* and *Code* automatically.
Required fields for APPLIANCE are:

* *Name* – the name of the node
* *Test Interval* – the frequency of the test
* *Next Due Date* – the date the next test is due
* *Auto-Test Code* – code as a unique designation for defined test sequences
* *Protection Class* – relates to the construction of the appliance (Protection Class I, II or III)
* *Appliance Status* – the status of the application can be In Use, Not in Use or In Repair

To change the information properties:

1. Click ✏ next to the field.

2. Change the information.

3. Click [✓] to save or [×] to cancel.

Remarks

Remarks include the remark description text field and attachment list (pictures, documents, audio, and video). Remarks are optional but can provide useful explanatory information.

To add or edit remarks:

1. Click **Add Remark** to create the first remark.

2. To add an attachment, click [📎] .

3. To save a remark, click [✓] .

4. To cancel a change, click [×] .

5. To edit an existing remark, click [✎] .

6. To delete a remark, click [🗑] .

Menu functions

The options in the menu bar (See Figure 6) for the PAT module are:
- **Communication**
- **Search**
- **Reporting**
- **Administration**
- **Node**

Figure 6. Example of PAT Module Menu Bar

Table 5 shows the additional icons on the menu bar. **Table 5. Menu Bar Icons**

Icon	Title	Description
	Account Info	This Icon shows the initials of the logged-on user. In case of the first installation, without any users created, this icon is empty. Click to show an account menu: • **Log out** – to log out the current user • **Close Client** – close the current client module window • **Exit Program** – close the Software You can also see this information from the directory structure, select **Administration > Account Info**. Only possible after a user has been created.
	Settings	Opens the Settings sub-menu. • **Barcode** – Select the barcode format to use for printed documents. • **Country** – Select the country of the application to set reports and certificate formats. This sets the standard used in the respective country. • **Reports Language** – Select the language to use in reports and certificates. • **Restore Default** – Reset some of the software system settings (Backup Location, Selected Barcode) to default values. • **Current Settings** – Shows the current settings.
	Help	Opens a small help menu which provides information on software usage and about software version. • **Manual** – Opens the Users Manual. • **About** – Shows Software version and copyright information. Use **Manage License** to access the License status and activate or deactivate your software license. If you deactivate your license the Software closes.
	Auto-Test Code Notification	Shows when the Auto-Test Code (ATC) is defined but not assigned to any instrument. This icon is usually presented after a database conversion when customized ATC are converted. Click to open a notification message. If no undefined ATC were found, this symbol is not visible.

Communication Menu

The options in the Communication menu (Figure 7) are:

- **Get Measurements** – Get data from the testing instrument.
- **Set Appliances** – Transfer appliance information to the testing instrument.
- **Get Auto-Test Codes** – Synchronize Auto-Test Codes between the Software and the testing instrument.
- **Read Data** – Read data from a file.

Figure 7. Example of Communication Menu
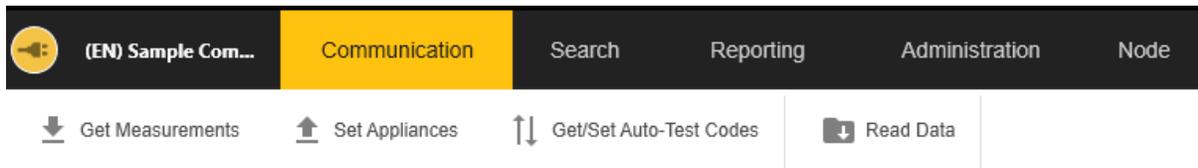
Communication – Get Measurements

Use **Get Measurements** to transfer collected measurement data from instrument to a PC. Data is automatically saved to a file for future use and the data can be used in the Software.

Note

When at least one of the GT800/GT600 or Fluke 6500 instruments is connected, the ⬇ symbol shows for both instrument types in the Select Instrument list.

In Figure 8, one GT800 and one Fluke 6500 are connected to the PC.

Figure 8. Get Measurement Starting Window (Multiple Instruments Connected)
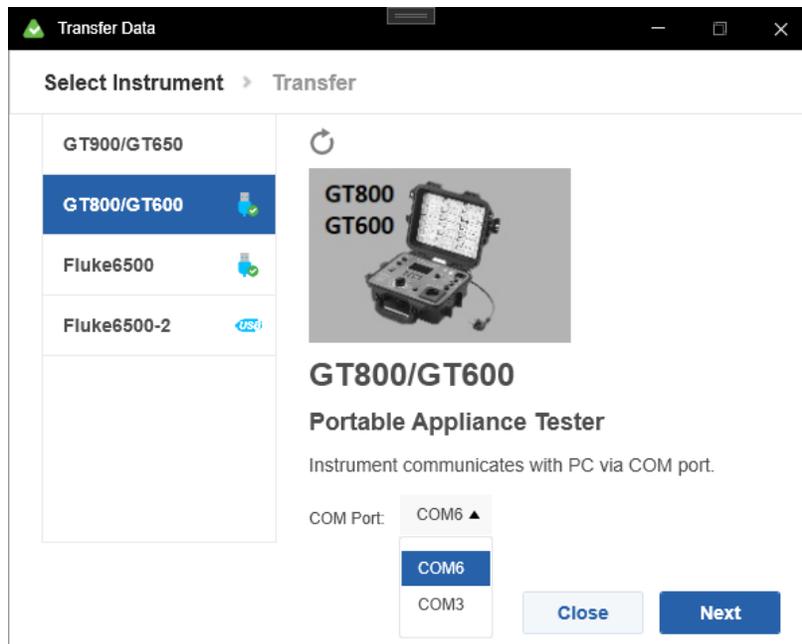
To transfer data:

1. Connect the instruments to the PC.

2. Select **Communications > Get Measurements**.

   The Transfer data screen shows. Instruments that are already connected to the PC, show a
   symbol next to the instrument type. Select the connected instrument to see a brief
   description

3. To refresh the list of connected devices, click ↻.

   If multiple instruments are connected use the COM Port menu to select the instrument.

4. To transfer data from GT900/GT650, GT800/GT600: select the instrument and click **Next**.

   The Software initiates communication with the instrument and transfers the data from the
   instrument to the PC. After completion of the transfer, the path and the file name of the
   transferred measurements file show in the Transfer tab.

5. To transfer data from Fluke 6500:

   a. Select the instrument and click **Next**.

      The Transfer tab shows the instructions page to connect the instrument.

   b. On the instrument, push **PC/Print**.

   The Software initiates the transfer of the measurement data. Upon completion of the
   transfer, the path and the file name of the transferred measurements file show in the
   Transfer tab.

6. To transfer data from Fluke 6500-2:

   a. Select the instrument and click **Next**.

      The Transfer tab shows the instructions page to connect the instrument.

   b. Follow the instructions to connect the cable and, push **PC/Print**.

      The USB connection is initiated. The content of the instrument shows in a File Explorer
      window.

   c. Click **Automatically find file** to start the transfer process.

   Upon completion of the transfer, the path and the file name of the transferred measurements
   file show in the Transfer tab.

7. After the transfer is finished, click **Next**.

   The Transfer tab opens the Measurements Data table with the content of the saved file. See
   Figure 9.

Figure 9. Transferred Measurements View

8. Click ⊕ for the selected measurement, to see an expanded view with the measurement details divided into several tabs. See Figure 10.

Figure 10. Measurement Details: Test Steps Tab

9. For each test step detail to edit, click the pen ✎ symbol.

The Information tab contains all information data regarding appliance tree position, engineer who executed it, execution date, Auto-Test Code used, instrument used, and more.

The Tree Position tab shows information about the appliance tree position saved on the instrument. Check if the position here is correct before importing the measurement into the database.

The Remarks tab shows if any of the remarks are saved for that measurement. Usually, this is the place for collected photos or external files related to the appliance under test with some text log as well.

10. To discard this tree position, click the checkbox **Unassigned**.

Those measurements are imported into the unassigned test list in the database. Resolve any conflicts with the data, see *Resolve Conflicts*. See Figure 11.

Figure 11. Measurements Details: Tree Position Tab

11. Click **Create Tests**.

To import data to the unassigned test list, check the *Unassigned* checkbox before import.

After successful transfer, a message box with number of measurements transferred to the tree and measurements transferred to the unassigned list will be shown:

Resolve Conflicts

On the Tree Position tab, when an *Unassigned* checkbox is unchecked, the Conflicts tab is automatically generated. The Conflicts tab shows if any conflicts between measurement data details and software database exist. Resolve conflicts before importing the measurement into the database. See Figure 12.

When there is no received client code from the instrument, the option to uncheck *Unassigned* checkbox is disabled and measurements can only transfer to the list of unassigned measurements. There is a blue flag in the Conflict column and the Software indicates that the Client code is not defined.

Figure 12. Measurement Data: Without Received Client Code
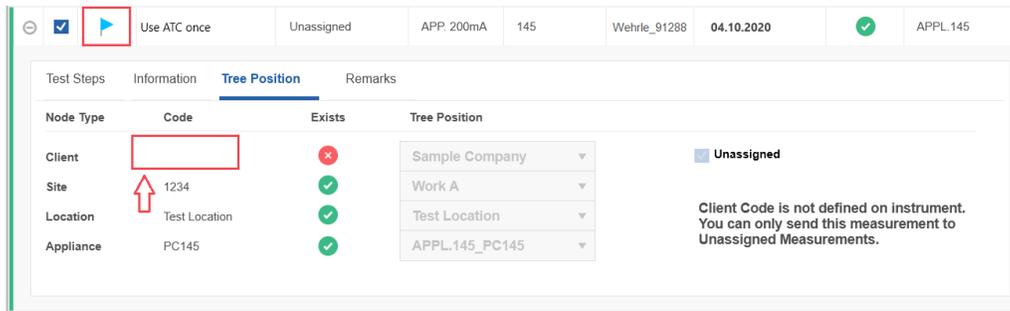
When the client code received from the instrument does not match the client code of selected client, the option to uncheck *Unassigned* checkbox is disabled and measurements can only be transferred to the list of unassigned measurements. There is a blue flag in the conflict column and the Software indicates that the Client code is not does not exist.

In the case where a conflict exists (for example: Auto-Test Code on Measurement and on Appliance in the database are different), the Conflicts column shows a red flag. See Figure 13. The Resolve Conflict menu has these choices:

Figure 13. Auto-Test Details: Conflict Resolver
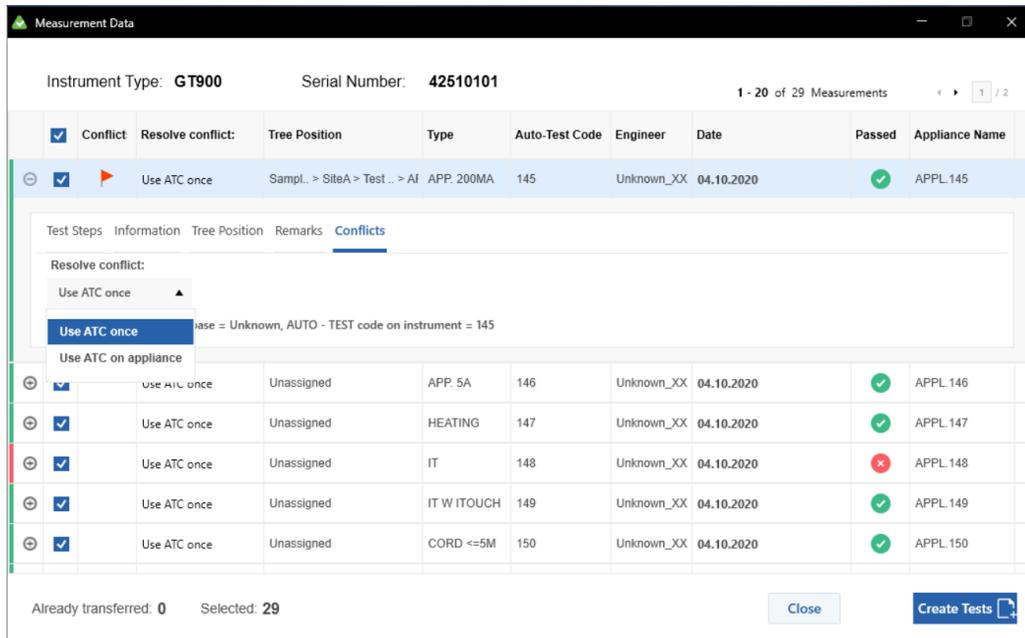
- **Use ATC once** - imports the measurement with its Auto-Test Code without changing the Appliance Auto-Test Code parameter in the database.
- **Use ATC on Appliance** - imports the measurement with its Auto-Test Code and at the same time will change the Appliance Auto-Test Code parameter in the database to the code read from the measurement.

Table 6 shows possible conflict messages.

Table 6. Data Import Conflicts

Message	Explanation
Client code doesn't exist in database. You can only send this measurement to unassigned measurements	The data does not have a client code assigned on the instrument. The measurement must transfer as *Unassigned.*
Client code is not defined on instrument. You can only send this measurement to unassigned measurements	The Client code received from the instrument does not match the client code of the selected client. The measurement must transfer as *Unassigned.*
Instrument information on Client, Site, Location and Appliance does not exist in database	Client, Site and Appliance nodes conflict occurs when there is a difference between *codes* in selected nodes on Tree Position tab and in transferred measurement (from file or from instrument). Location node conflict occurs when there is a difference between *names* in selected nodes on Tree Position tab and in transferred measurement (from file or from instrument).
Instrument information on Location does not exist in database	The name parameter differs for the Location node.
Auto-Test Code xxx does not exist in database	Occurs when Auto-Test Code from measurement is not already defined inside software.
Auto-Test Code in database = xxx, Auto-Test Code on instrument = xxx	Occurs when Auto-Test Code from measurement is different than Auto-Test Code on appliance that is selected on Tree Position tab (when Auto-Test is not already defined, this message is not shown).
Different test steps in referent ATC and received ATC	(Informational) Occurs when Auto-Test Code from measurement is the same as Auto-Test Code on the appliance that is selected on "Tree Position" tab, but test steps inside in them are different.
Test is already transferred	Occurs when measurement already exist in software (determined by timestamp, instrument type and instrument serial number).

Communication – Set Appliances

Use **Set Appliances** to transfer list of appliances from PC to instrument or create file with appliance list that can be transferred to the instrument via USB.

You can also use the Print menu options: **Selected** and **Barcode**.

Instruments do not recognize appliances without codes, appliances with *Unknown* or *Single* Auto-Test Codes therefore these nodes cannot be transferred.

On the initial window, several controls are available. First, there is a search control which used to filter Appliances by either Name, Appliance Code, Auto-Test Code, Status, Manufacturer, Manufacturing year or Appliance type.

To export a file:

1. Select **Communication > Set Appliances**.

   The Initial Set Appliances window opens.

2. Click **Export** to open File Explorer.

3. Browse to the folder and create a file name.

   The created file is a CSE File (.cse) and should have less than 8 characters.

To upload a file:

1. Select **Communication > Set Appliances**.

   The Initial Set Appliances window opens.

2. Click **Upload** to open the instrument list.

3. Select the instrument where the selected appliances will be transferred.

4. Click **Next**:

5. When the transfer is complete, click **Close** on the confirmation message.

Communication – Get/Set Auto-Test Codes

Use **Get/Set Auto-Test Codes** to import and export Auto-Test Codes to and from an Instrument.

To import and export Auto-Test Codes:

1. Connect the instrument to the PC.

2. Select **Communication > Get/Set Auto-Test Codes**.

   The Transfer data screen shows. Instruments that are already connected to the PC, show a symbol next to the instrument type. Select the connected instrument to see a brief description.

3. To refresh the list of connected devices, click ↻.

4. Select the instrument type and click **Next**.

   A table of Auto-Test Codes shows. See Figure 14.

Figure 14. Manage Auto-Test Codes: Customized
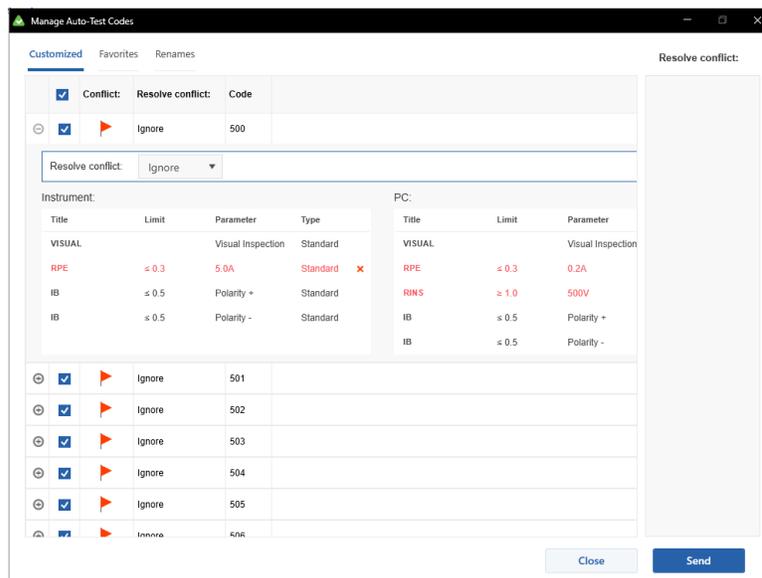
On the Customized tab, all customized Auto-Test Codes with test step details show along with the information whether the Auto-Test Code with the same code exist on testing instrument and in the database.

When a difference between Auto-Test Codes in the instrument and in the database exists, red flag is shows in the Conflicts column. Conflicts can also occur in Test Steps, the Favorites tab, and the Renames tab list.

5. For each conflict, choose an action to resolve:

    - **Ignore**: no action will be taken.
    - **Instrument->PC**: customized Auto-Test Code definition from the Software on the PC will be copied to the instrument.
    - **PC->Instrument**: customized Auto-Test Code definition from instrument will be copied to the Software on the PC.

    The selected option is shows in the Resolve conflict column.

    After choosing a way to resolve conflict, all selected options and corresponding codes show on the right side of the window in the Resolve conflict column. See Figure 15.

Figure 15. Manage Auto-Test Codes: Conflict Resolution
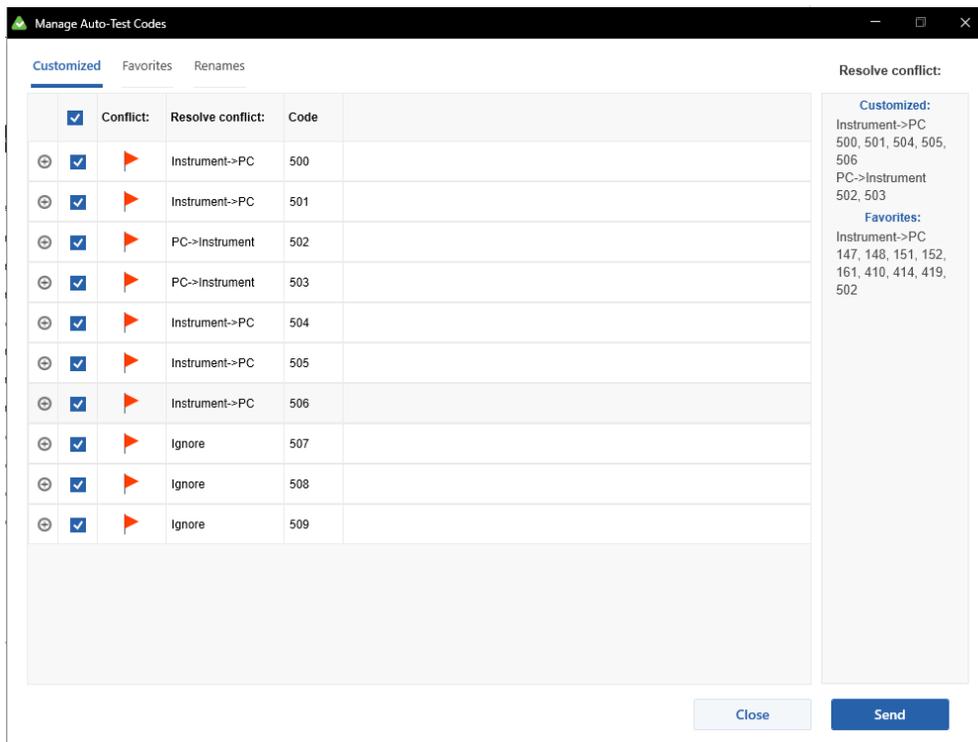
6. Click **Send** to initiate a transfer of customized Auto-Test Codes, favorite and code names based on selected conflict resolution options.

    After completion of the transfer, the small report message shows.
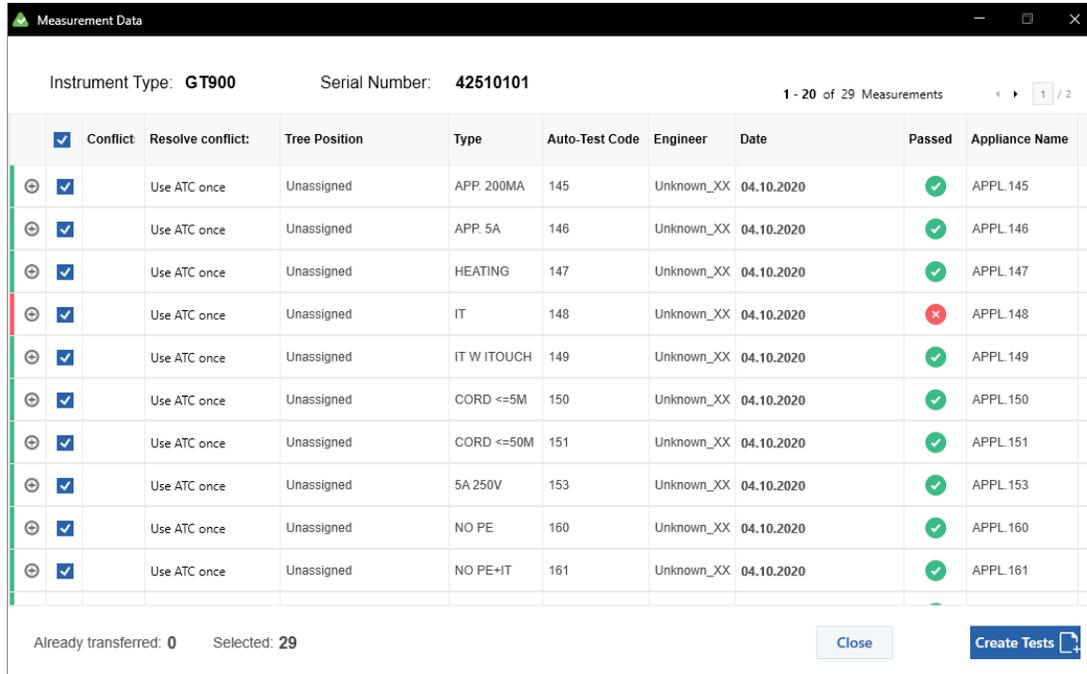
7. Click **OK** to dismiss the message.

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Communication – Read Data

Use Read Data to read data that was transferred from instrument to PC using the menu option Get Measurements.

1. Select **Communication > Read Data**.

2. Browse to the file and click **Open**.

   After loading the file, a table view of the measurement data loaded from the file shows. See Figure 16.
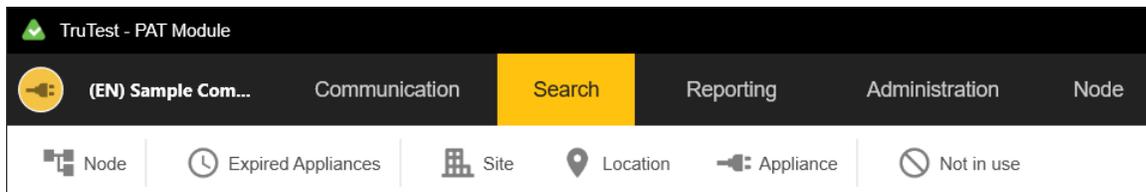
Figure 16. Measurement Data Presentation

For more information see *Communication - Get Measurements*.

Search Menu

The Search menu (Figure 17) has these pre-defined searches:

- **Node**
- **Expired Appliances**
- **Site**
- **Location**
- **Appliance**
- **Not in use**

Figure 17. Example of Search Menu

Search – Node

Search results include a list of nodes with names that includes the searched term, presented with full path to node. Field used for search: name parameter of all node types.

The detailed report of this search result shows.

Search – Expired Appliances

Search for expired appliances in desired time interval. This form has the predefined search filters:

- **Expired** - appliances with status Failed, Not Tested, In Repair and appliances that are In Use and have "Next Due Date" property older than today's date
- **Expires in 2 weeks**
- **Expires in 1 Month**
- **Expires in 3 Months**
- An additional option is to display the expired appliance by selected site and location or based on manually chosen time interval.

The field used for search based on *"Expires in 2 weeks"*, *"Expires in 1 Month"*, *"Expires in 3 Months"* options or manually chosen date is only "Next Due Date" property of appliance node with status In Use.

You can also print a list of appliance barcodes.

Search – Site

Filter the list of sites by typing a part of its name in search box. Fields of site node used for search include *Name, Code, City, Street* and *Person*.

Search – Location

Filter the list of locations by typing at least part of its name in search box. Filtered data is represented in the table. Fields of location node used for search include *Name, Person and Path*.

Search – Appliance

This form filters the list of appliances by typing at least part of the searched term in search box. Filtered data is represented in the table. Fields of appliance node used for search include *Name, Code, Status, Manufacturer, Manufacturing Year, Appliance Type and Path*.

Search – Not In Use

This form filters the list of appliances whose status is *Not In Use*. Filtered data is represented in the table. Fields of appliance node used for search include *Name, Code, Status, Manufacturer, Manufacturing Year, Appliance Type and Path*.

Use the Search menu to search data in the Software. Search results can be used for report generation. You can print out the reports.

When the search is returned you can set properties.

1. In the search results, click to select the site nodes.

    ☑ indicates selected fields.

2. Click **Manage**.

3. Enter the properties and click **Save**.

There is a more complex tool for the report generation available on the Print menu to, generate standard and detailed appliance Reports and Certificates located on listed site nodes. The option **Other > Selected** will simply print the list of site nodes

- Report:
  - **Standard report** - generates a standard report for the selected node showing its subtree and containing the list of all appliances with theirs last measurement status.
  - **Detailed report** – generates a detailed report with test step details for all the appliances' last measurements under the selected node showing its whole subtree structure as well.
- Certificate:
  - **Standard Certificate** – generates standard types of certificates for all the appliances under selected node in the client tree.
  - **Detailed Certificate** - generates detailed types of certificates for all the appliances under selected node in the client tree. Detailed certificates contain all the test steps details executed during the last appliance test.
- Other:
  - **Selected** – generates a list of all selected appliances.
  - **Barcode** – generates a list of all selected appliances including Barcodes.

Reporting Menu

Use the Reporting menu (Figure 18) to create these reports:

- **Client Report**
- **Client Certificate**

Figure 18. Example of Reporting Menu
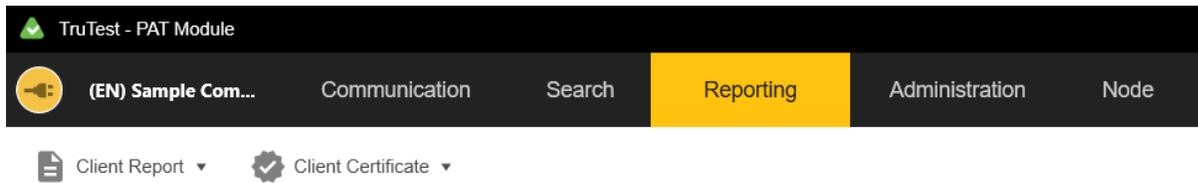
Client Report

This function provides a generation of the client's complete list of appliances in the form of standard and detailed reports. Standard reports contain general appliance data. See Figure 19.

Figure 19. Client Report: Standard
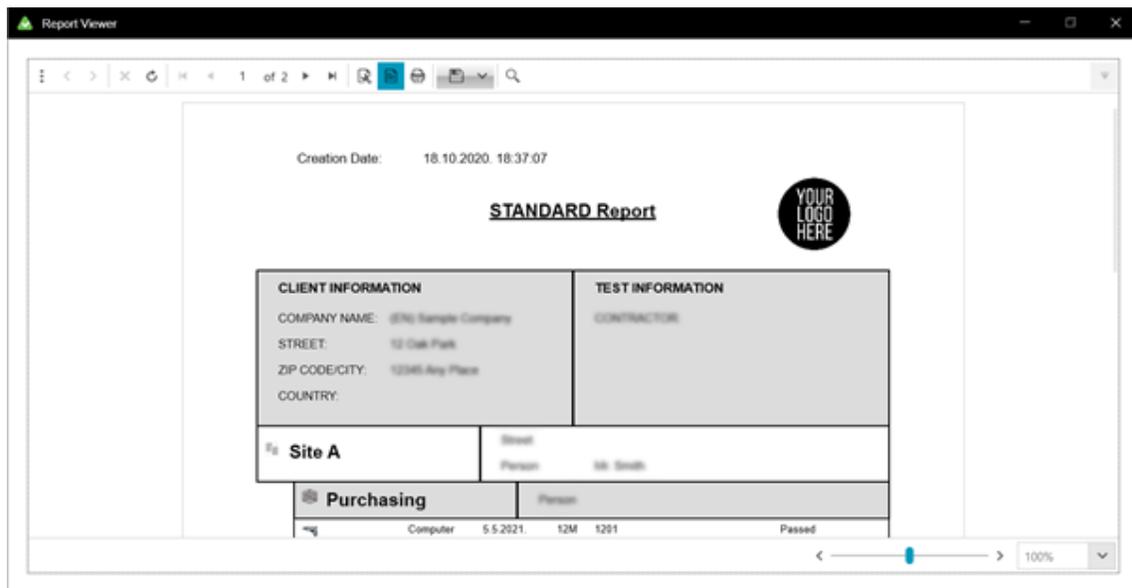
Detailed reports also contain last measurements details.

Client Certificate

This function provides a generation of certificates for the client's complete list of appliances in the form of standard and detailed certificates. See Figure 20.
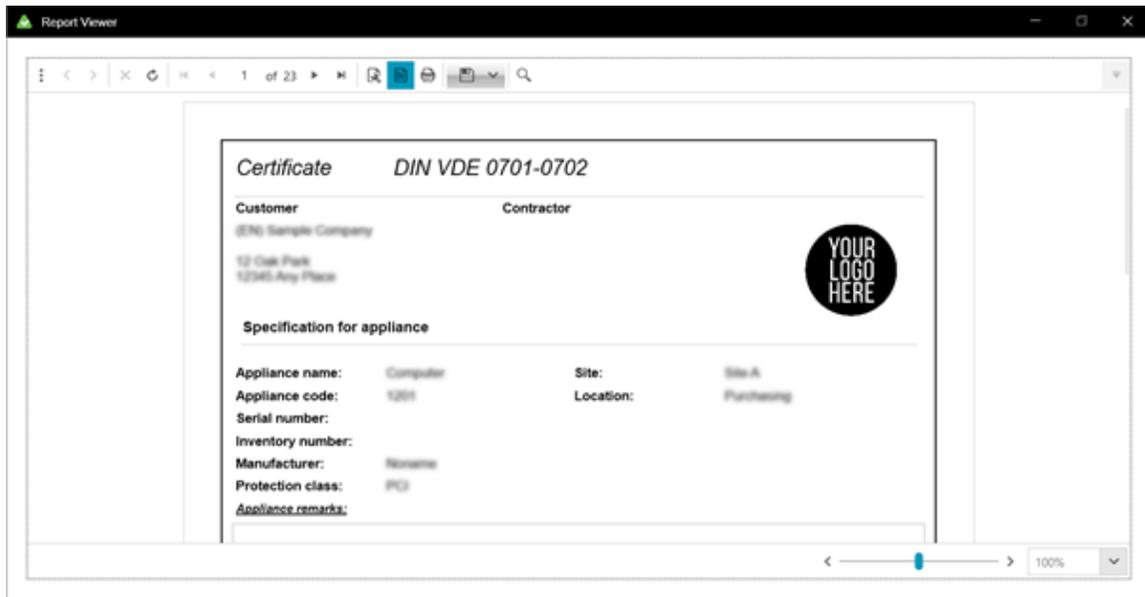
The detailed certificate also contains, besides the standard certificate information, detailed results of the last measurements for each appliance of that client.

Report Viewer

Each of the reports and certificates are generated using the Report Viewer form. This form has several controls available in the toolbar. See Table 7.

Table 7. Report Viewer Controls

Icon	Description
<	Navigate back in history
>	Navigate forward in history
✕	Stop
↻	Refresh
⏮	First Page
◀	Previous page
▶	Next page
⏭	Last page
▧	Page Setup dialogue (Windows based dialogue)

| Icon	Description
🗎	Switch to print preview or interactive view
🖨	Print report dialogue (Windows based dialogue
💾 ▾ **Selectable formats:** **Acrobat (PDF) File** **CSV (comma delimited)** **Excel 97-2003** **Excel Worksheet** **PowerPoint Presentation** **Rich Text Format** **TIFF file** **Web Archive** **Word Document** **XPS Document**	Save as option for saving the report as file of the selected type
🔍	Search option for text searching in report

At the bottom of the window, a zoom control is given.

Administration Menu

Use the Administration menu (Figure 21) to manage this data:

- **Engineers**
- **Test Instruments**
- **My Company Info**
- **Auto-Test Codes**
- **Backup**
- **Restore**
- **Account Information**
- **Users**
- **Event Viewer**

Figure 21. Example of Administration Menu
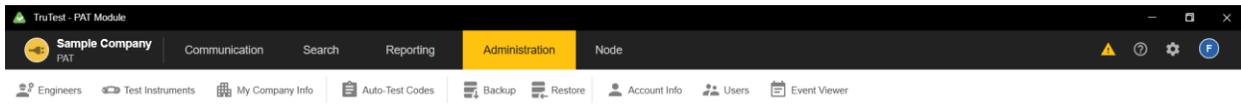
Administration – Engineers

This form displays the records of the created engineers. To add Engineers click **Add**. To modify data, change the data fields on the right part of the form for the selected engineer.

Table 8 shows the available fields. Use the **Report** button to generate this data as a report.

Table 8. Fields in the Engineers Window

Field	Description
Name	Engineer name
Position	Job position
Engineer code	Unique engineer code
Qualification type	Description of the engineer's qualification
Training date	Date of the last training
Signature for the single test certificate	Signature file of engineer, used for test certificate
Remarks	Various notes on engineer
Active	Determine if engineer is active in testing

Administration – Test Instruments

All test instruments registered for testing are listed here. To add data records click Add. To modify data, change the instrument data on the right part of the form.

Table 9 shows available fields.

Table 9. Fields in the Test Instruments Window

Field	Description
Serial number	Serial number or the factory number of the test instrument
Inventory number	Testing company identification number of the test instrument
Calibration date	Date of last calibration of the test instrument
Instrument type	Test instrument type
Description	Test instrument additional information

Administration – My Company Info

Use this form to insert company details and logos. The logo picture is intended for use in Reports. The certification logo can be used in addition to the company logo.

Figure 22. Company Info Window
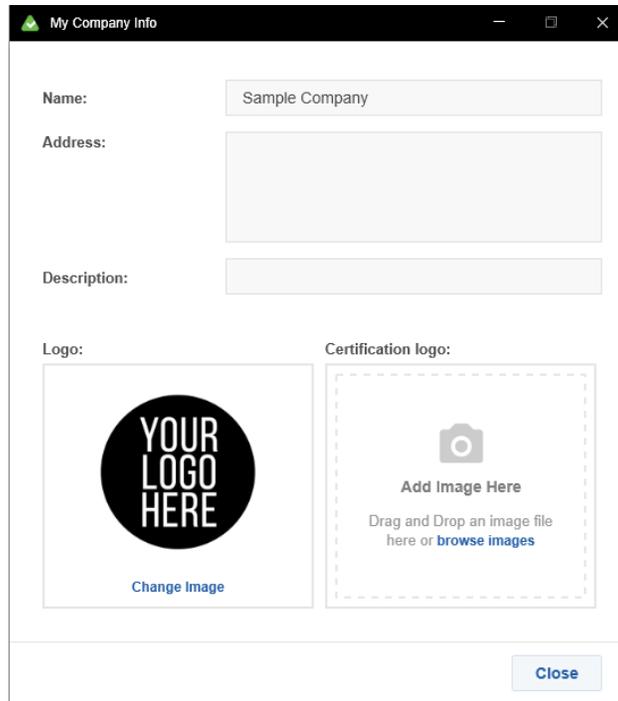
Table 10. Fields in the Company Info Window

Field	Description
Name	Company name
Address	Company Address
Description	Additional Company Details
Logo	Select the respective image file of your company logo. The default setting is image "YOUR LOGO HERE."
Certification logo	If available, you may integrate your Certificate logo. For this, click "Change" and select the respective image file for your Certificate logo. The default setting is image "YOUR LOGO HERE."

Administration – Auto-Test Codes

Use this option to manage Auto-Test Codes. Auto-Test Codes are test procedures containing different test steps specific to the type of measurement. They can be predefined or custom. Predefined Auto-Test Codes have code numbers in the range 1-499, and they cannot be changed. The list of predefined codes reside in the Software and in instruments and cannot be changed. Custom Auto-Test Codes (code numbers of 500+) can be made both in software and on instruments and can be transferred between the two instances. Figure 23 and Table11 describe Auto-Test Codes.

Figure 23 Changed Auto-Test Code
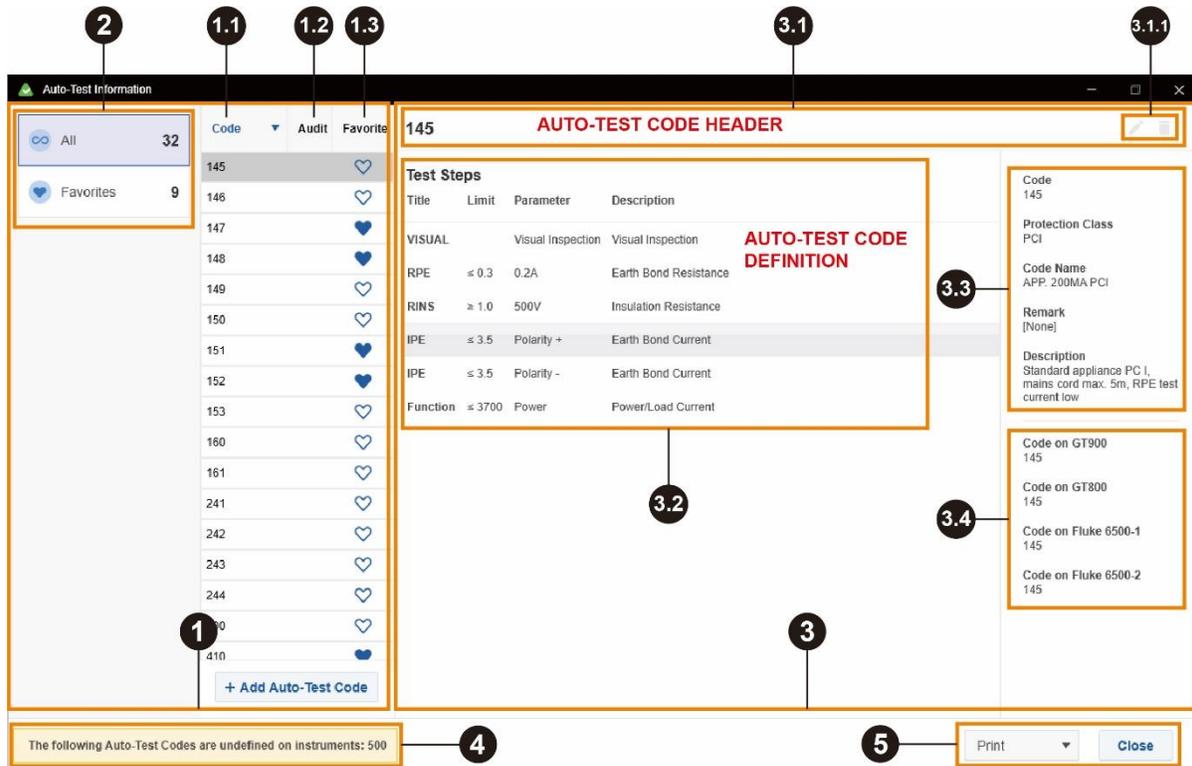
Table 11. Auto-Test Codes

Item	Description
1	This section contains the list of all Auto-Test Codes. This list can be sorted by any of the columns. Select a code to see the details in **3**. Use **+ Add Auto Test Code** to add a new custom code. See _Add Auto Test_.
1.1	The *Code* column contains individual Auto-Test Codes.
1.2	The *Audit* column contains a flag 📝 which indicates whether this code definition is changed or not.
1.3	The Favorite column contains a 💙 icon which indicates whether this code is marked as favorite or not.

| Item	Description
2	Blue leftmost panel contains these controls: **⬭ All** **42** - displays all Auto-Test Codes **♥ Favourites** **9** - displays favorite Auto-Test Codes
3	This section shows the details of the selected Auto-Test.
3.1	Single Auto-Test header contains Auto-Test Code and a symbol which indicates if that Auto-Test has been changed recently. Click on the symbol to open the Audit window, showing the list of changes made for that Auto-Test Code.
3.1.1	Single Auto-Test menu options. Available controls have bold borderlines, while unavailable are dimmed. 📝 - open Audit changes window (available only for custom Auto-Test Codes) ✏ - enables editing of Auto-Test Code (available only for custom Auto-Test Codes) 🗑 - deletes Auto-Test Code (available only for custom Auto-Test Codes)
3.2	This panel shows all Test Steps of the Auto-Test.
3.3	This panel shows Auto-Test basic information.
3.4	This panel shows information about various codes given on different instrument types for the same Auto-Test Code displayed in the Software. When an instrument type does not support that Auto-Test Code, then *Undefined* is shown.
4	This panel shows information about existing conflicts when some of the custom Auto-Test Code is not assigned to any of the instrument types.
5	This section contains the **Print** controls with various options. **Close** will close the Auto-Test Information window.

Add Auto-Test

To add a custom Auto-Test:

1. Select Administration > Auto-Test Codes.

2. On the Auto-Test Information window, click [+ Add Auto Test Code] .

3. On the Add Auto-Test window, drag existing codes from the list to the left panel.

4. Once steps are added you can edit the test steps. See Figure 24.

   Individual test steps can be deleted from the list (🗑 symbol) or edited (✏ symbol).

Figure 24. Editing Test Codes
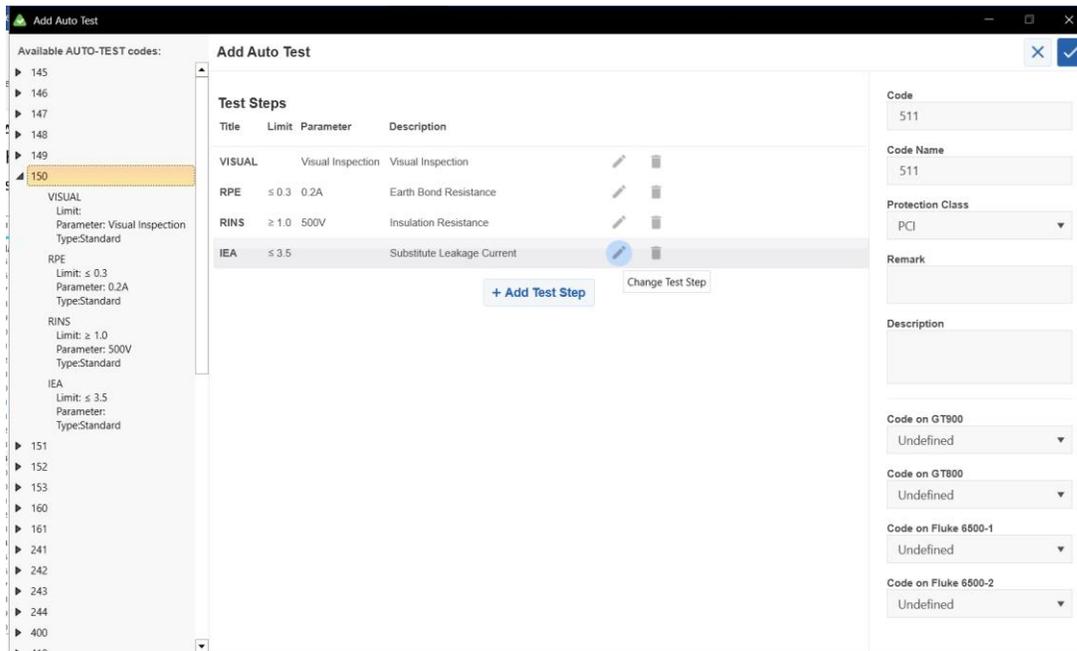
5. On the Manage Test Step window, all the parameters of the test step can be changed by selecting one of the available values for the specific parameter, except for the Limit parameter of the RPE test step.

   For editing the Limit parameter of the RPE test step use these buttons:

   ▦ - **Calculate limit** opens a dialog to define the wire diameter and length. After selection of the valid values, a calculated limit will be displayed in the Limit field.

   ⊞ - **Show default values** extends this form with a drop down list of default values for the Limit parameter.

6. After editing test steps, enter data into the Auto-Test Information panel fields and select the equivalent codes on instrument types in the Auto-Test Code value on instruments panel.

7. Click **Save** to save the definition of the new the Auto-Test Code in the database.

Administration – Backup

A user with the ADMIN role can create a backup of the database.

To restore the database.

1. Select **Administration > Backup**.

2. Click on the ☐ icon to open File Explorer.

3. Select the backup file location and click Select Folder.

4. On the Create Backup screen, click **Restore** to create the backup.

    The backup may require some time to complete.

    Database backup will generate two files: one "data_YYYY_MM_DD_hh_mm_ss.bkp" type file which is a backup of measurement data and the other is "admin_YYYY_MM_DD_hh_mm_ss.bkp" file which is a backup of administrative data (user's information).

5. When the restore is complete, click **OK** to confirm.

Administration – Restore

A user with the ADMIN role can restore the database.

To restore the database.

1. Select **Administration > Restore**.

2. Click on the ☐ icon to open File Explorer.

3. Browse to the backup file and click **Open**.

4. On the Restore Backup screen, click **Restore** to restore database or administrative data.

5. When the restore is complete, click **OK** to confirm.

Administration – Account Info

The menu option Account Info is intended for displaying data of the currently logged-in user. Each user can change their own password.

To change a password:

1. Select **Administration > Account info > Change Password**.

2. Enter the old password.

3. Enter the new password.

4. Enter the new password again to confirm.

5. Click **Save**.

Administration – Users

The user with the ADMIN role has access to *Administration – Users* function in the menu bar. This shows the User Information table. The admin can sort and filter the Users Information table on any of the columns.

An ADMIN user role can change configuration data of the current users, add new user, delete a user and change the password of the current user. Also, they can generate a printed report of the configured users. For more information see *ADMIN Role*.

The User Information form has these buttons:

- **Add User**: creates a new user.
- **Delete User**: deletes the user that is selected.
- **Change password**: changes the password for the selected user.
- **Report**: creates a report of all the users. The admin can print reports and every report can be exported to a CSV file.
- **Close**: closes the window.

To add a user:

1. Select **Administration > Users** and select **Add User**.

2. Enter the information.

   These fields are required:

   o **Username**

   o **Role** – Each user can have only one assigned role. For more information on Roles see *User Authorization - User Role*

   o **Password**

3. Click **Save**.

For the existing users, currently logged in ADMIN user can change the password:

1. Select **Administration > Users**

2. Select the User.

3. Click **Change Password**.

4. Enter the new password and click **OK**.

Administration – Event Viewer

Use Event Viewer to show all the database changes made from all users of the Software.

Node – Menu

Use the Node menu (Figure 25) to create and change the tree hierarchy of the client tree view. This hierarchical tree structure, with a root node and subtrees of children with a parent node, is represented as a set of linked nodes.

This menu is also accessible through right click on node in tree view.
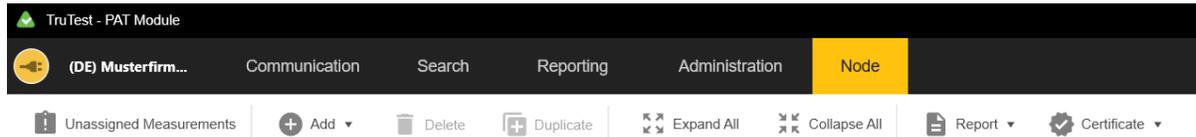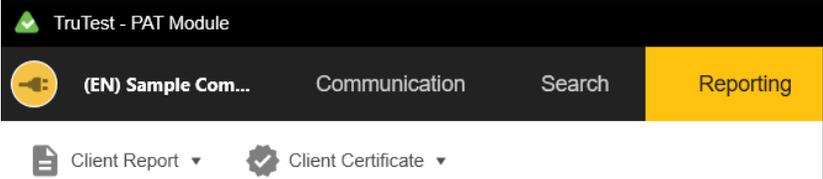
Figure 25. Node Menu

Table 12 shows the simple actions of the Node menu.

Table 12. Node Action Details

Node action	Description	Node types
Add	Adds a child node. The type of the node depends on the selected node which is treated as parent node	All
Delete	Deletes the selected node and all the child nodes.	All except CLIENT node.
Duplicate	Creates a copy of the selected node at the bottom of the list under the same parent node. Name of the copy has the suffix *(n)*, where n is an ordinal number of the copy. All info property data are copied from selected node. Required data have the suffix "*(n)*". Nodes types that can be duplicated are *Site* and *Location*	All except CLIENT node.
Expand All	Expands the whole client tree.	All
Collapse All	Collapses the whole client tree.	All
Report	• **Standard report** - generates a standard report for the selected node showing its subtree and containing the list of all appliances with theirs last measurement status. • **Detailed report** – generates a detailed report with test step details for all the appliances' last measurements under the selected node showing its whole subtree structure as well. See the *Reporting Menu* Use the Reporting menu (Figure 18) to create these reports: • **Client Report** • **Client Certificate** **Figure 18. Example of Reporting Menu** for additional information.	Reports are created for all node types.

Node action	Description	Node types
Certificate	The certificate presents a legal document that certifies the status of the appliance according to the last executed measurement. • **Standard Certificate** – generates standard types of certificates for all the appliances under selected node in the client tree. • **Detailed Certificate** - generates detailed types of certificates for all the appliances under selected node in the client tree. Detailed certificates contain all the test steps details executed during the last appliance test. See the *Reporting Menu* Use the Reporting menu (Figure 18) to create these reports: • **Client Report** • **Client Certificate** **Figure 18. Example of Reporting Menu** for additional information.	Certificate presents statuses all appliance/panel nodes in subtree according to standards.

Node – Unassigned Tests

Opens the Unassigned Measurements window showing all imported measurements that are not positioned in the client tree:

To insert one or more of these measurements:

1. Select the check box and open the measurement details.

2. Open the Tree Position tab.

3. Set the desired Appliance location.

4. Click **Move Tests** to initiate the transfer.

User Administration

This section describes user access to the Software, authentication and user roles which provide various privileges.

User Authentication

Software Access

User credentials are in the form of a username and a matching password."

To identify if a user is authorized, the Software checks the combination of username/password, and if a correct combination is entered, the user can access the Software and use the program.

If the user did not enter a username or if a password is incorrect, the Software will indicate the error.

Password Policy and Changing Password

A user can only review their own information. A user can change their own password. For more information see *Administration - Account Info*

User Authorization - User Roles

A role is a set of allowed functions which are assigned to this security level. In the administrative part of the Software, various user roles are defined.

A user can access only options dependant on their privileges. The menu functions which are not available for the user are shaded in grey in the TruTest Software.

When no user exists, the default user is logged as the ADMIN role.

USER_REPORT Role

User with this role can only access menu functions in the menu bar for creating report, printing report and user information.

USER_DOWNLOAD Role

Besides privileges in role USER_REPORT, this user can transfer data between instrument and PC and transfer measurement data from file to software.

USER_MODIFY Role

Besides privileges in role USER_DOWNLOAD, this user can create new items for testing, define test procedures, can modify tree structure, manage engineers, test instruments, clients and company information, resolve conflicts and delete or move measurement data.

USER_AUTOTESTCODE Role

Besides privileges in role USER_MODIFY, this user can create new Auto-Test Codes, edit and transfer them from a PC to an instrument and vice versa.

ADMIN Role

The user with this role has full access to all system options. Besides privileges in role USER_AUTOTESTCODE, this user can also change passwords for all users, perform backup and restoration of data and access event viewer.

When starting the software, a user can access all menu functions in the menu bar. The user with the ADMIN role can see information about all users. When the admin accesses **Administration – Users** in the menu bar, the admin can edit all the fields of a user's entry: See Table 13.

Table 13. User Table Field Descriptions

Name of the field	Description
Username	Unique Username
Role	One of the 4 roles, select box with 4 roles
Name/Surname	Name and Surname
Address	Address
Telephone	Telephone Number
Fax	Fax Number
Active	Is user active, Yes or No?
Email	There is validation for this field. This field is checked whether an email address is well-formed.
Creation Date	Creation date of the user