

Guide to MI 3394 CE MultiTesterXA Ver 1.2.3; Code No. 20 753 115

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Autorisierter Distributor



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1. Introduction

This document is intended to present the process of making test sequences. Depending on the model or type of the target instrument, the user can create custom Auto Sequence® and custom inspection tests.

The main purpose of this document is to show how to set the parameters of individual tests which are part of test sequence, the meaningful use of flow commands, and the creation of custom inspections.

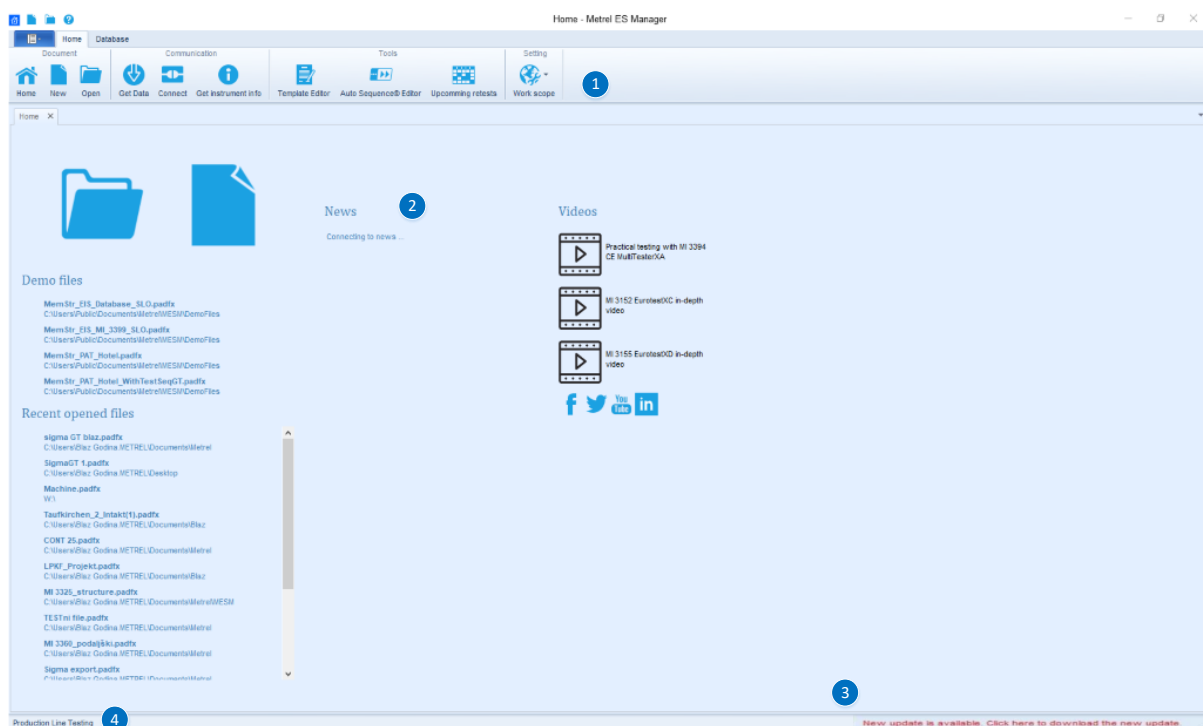
2. Getting started

2.1. MetrelElectricalSafetyManager

Metrel Electrical Safety Manager is a common PC software application for management of the new generation of Metrel's instruments. The wide palette of Metrel's electrical safety testers, portable appliance testers, machine testers and industrial safety testers can be managed by one single application. It has a unified user interface with the new generation of Metrel's instruments – same view same meaning.

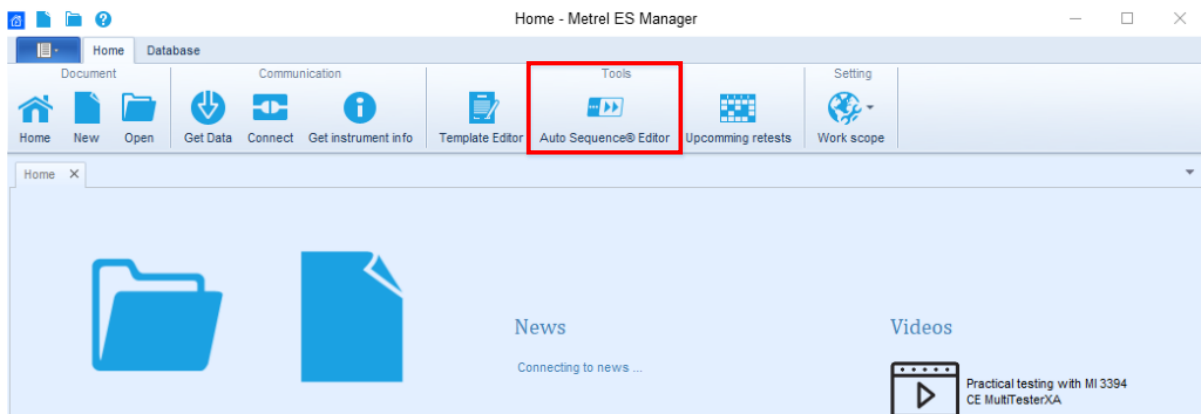
2.2. Introduction

After start-up, Metrel ES Manager Welcome screen appear with Menu tabs (❶) on the top and Home tab active in the working area (❷). When connected to the internet, update status presented in bottom right corner (❸) is automatically checked. Default scope of work area is displayed in the bottom left corner of the window (❹). Check Work scope setting before start a new data structure file. When existing data structure file is opened, Work scope is automatically set.



3. Auto Sequence® Editor

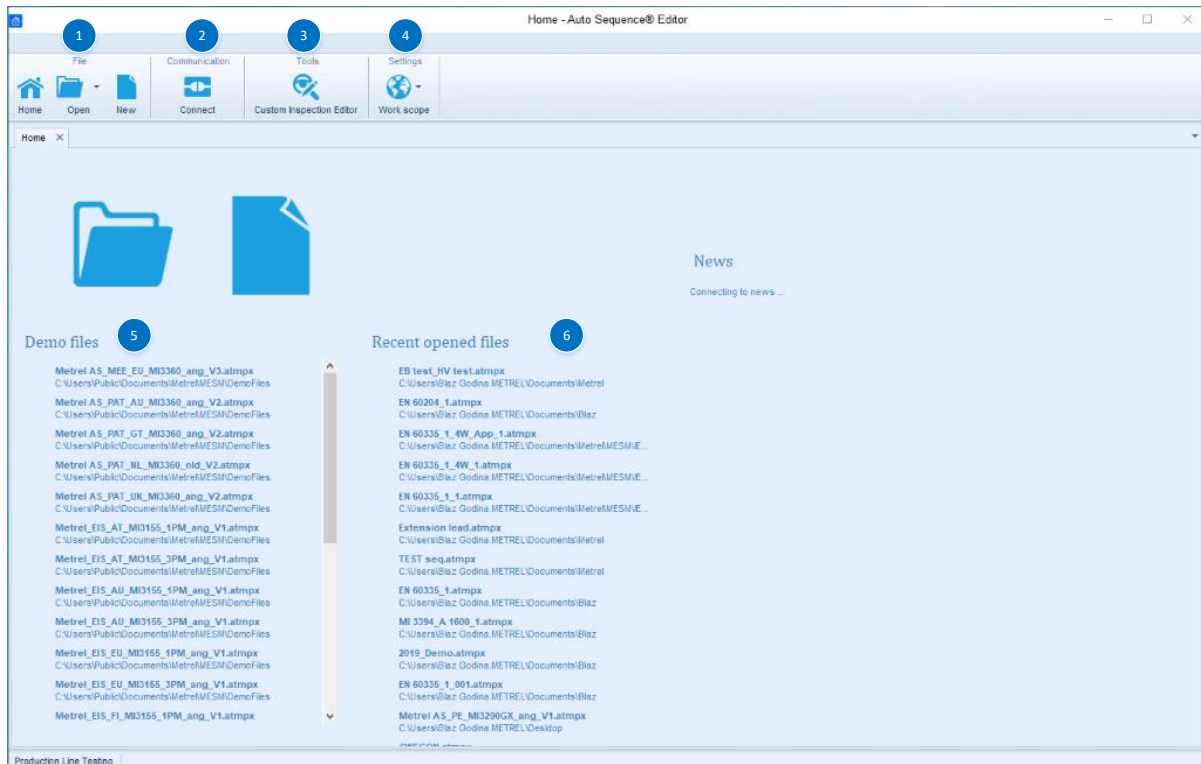
Auto Sequence® editor is available from Tools group of MESM Home tab menu.



3.1. Introduction of Auto Sequence® editor

3.1.1. Main window

After start-up, Auto Sequence® editor Welcome screen appear with following tools (❶) File, (❷) Communication, (❸) Tools, (❹) Settings, (❺) Demo files, (❻) Recent opened files.

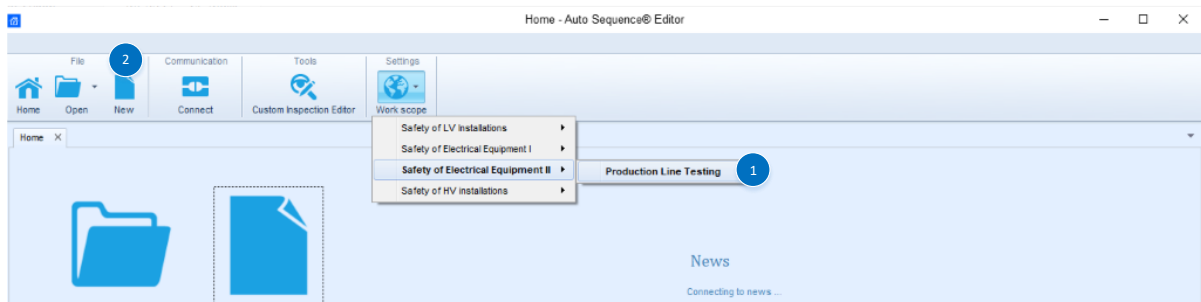


3.2. Creating new Auto Sequence

Before creating a new test sequence, it is necessary to select the correct Work scope. The Work scope selected, must be the same as the Work scope in which the instrument we intend to use operates.

The work scope → Safety of electrical equipment → Production line testing will be used to present the demo test sequence.

This is the work scope reserved for CE MultiTester instruments.

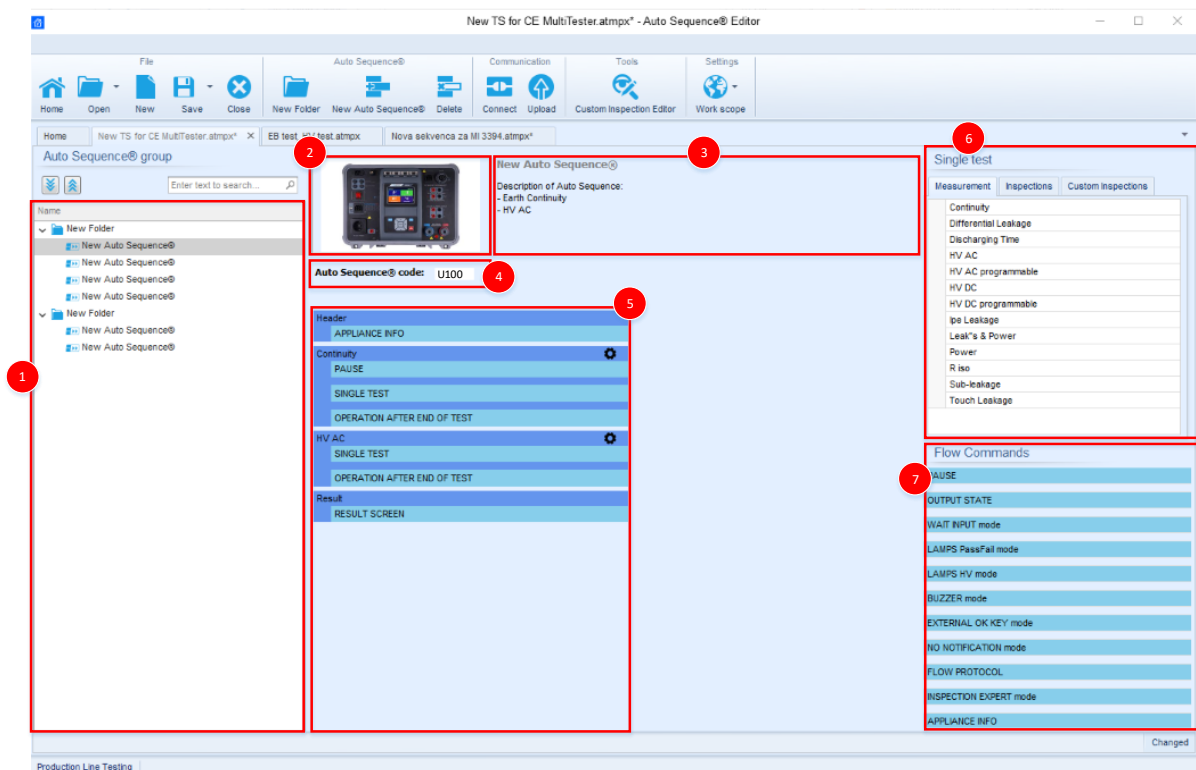


1. Select correct Work Scope (same as used on target instrument)
2. Select New file

3.3. Description of Auto Sequence® group working area

Main screen of new Auto Sequence® consists of following modules, parts:

1. **List of available test sequences**; for better transparency and structuring, the test sequences can be organized in a tree structure including folders and subfolders,
2. **Picture dedicated to the selected test sequence**; each test sequence can be equipped with an image, the image is displayed in the PC SW only,
3. **Description of the selected test sequence**; a description can be added to the test sequence, this will be displayed in the PC SW and in the test sequence header on the measuring instrument,
4. **Test sequence, custom specified short code**; a test sequence code will be displayed in the test sequence header on the measuring instrument. Test sequence short code can be used for search of test sequence inside the Auto Sequences® menu of the measuring instrument,
5. **Tests and flow commands of selected test sequence**; the entire workflow of the test sequence including all associated flow commands is listed in this section,
6. **Lists of available Measurements, Inspections and Custom Inspections**; in this section measurements, inspections and custom inspections available for specific work scope are listed,
7. **List of available flow commands**; flow commands available for specific work scope are listed here.



3.4. Elements of an Auto Sequence®

3.4.1. Auto Sequence® steps

There are three kinds of Auto Sequence® steps.

Header

The Header step is empty by default.

Flow commands can be added to the Header step.

Measurement step

The Measurement step contains a Single test and the Operation after end of test flow command by default. Other Flow commands can also be added to the Measurement step.

Result

The Result step contains the Result screen flow command by default. Other Flow commands can also be added to the Result step.

3.4.2. Single tests

Single tests are the same as in Metrel ES Manager Measurement menu.

Limits and parameters of the measurements can be set. Results and sub-results can't be set.

3.4.3. Flow commands

Flow commands are used to control the flow of measurements. Refer to chapter 3.5 Description of flow commands.

3.4.4. Number of measurement steps

Often the same measurement step has to be performed on multiple points on the device under test. It is possible to set how many times a Measurement step will be repeated. All carried out individual Single test results are stored in the Auto Sequence® result as if they were programmed as independent measuring steps.

3.5. Description of flow commands

Depending on the specific work scope, different lists of flow commands are given. Flow commands are user selectable and can be added to test sequence using drag and drop.

Double click on inserted Flow Command opens menu window, where text or picture can be entered, external signalling and external commands can be activated and parameters can be set.

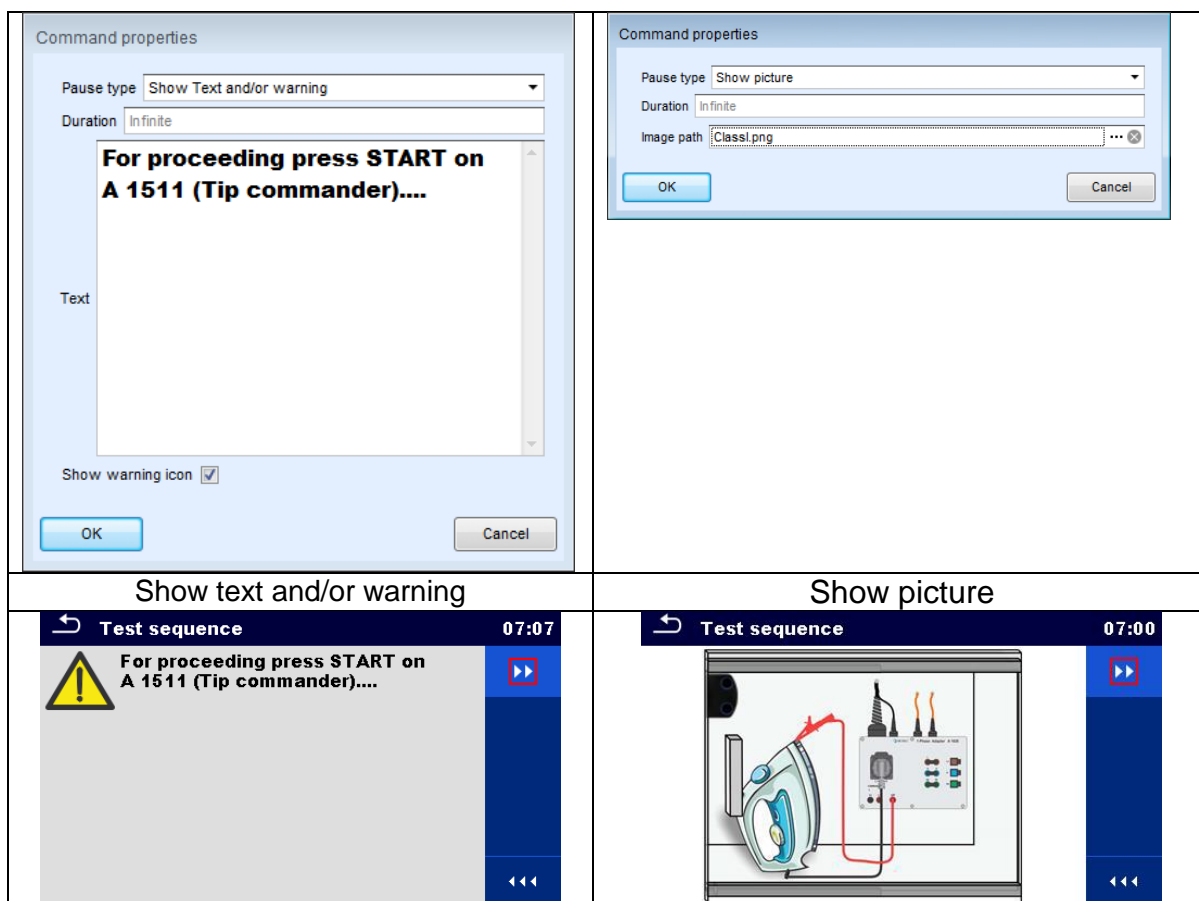
- Most Flow commands need to switch the state, from inactive to active, for operation.
- Flow command remains active until new (same) Flow command is inserted to Autosequence with the state set to inactive for operation.

Flow Commands	List of flow commands supported in, Work scope:
PAUSE	Production line testing
OUTPUT STATE	
WAIT INPUT mode	
LAMPS PassFail mode	
LAMPS HV mode	
BUZZER mode	
EXTERNAL OK KEY mode	
NO NOTIFICATION mode	
FLOW PROTOCOL	
INSPECTION EXPERT mode	
APPLIANCE INFO	

3.5.1. Pause

A Pause command with text message or picture can be inserted anywhere in the measuring steps. Warning icon can be set alone or added to text message. Arbitrary text message can be entered in prepared field Text of menu window.

	PAUSE	
--	-------	--



Pause type	Show text and/or warning (<input checked="" type="checkbox"/> check to show warning icon) Show picture (<input type="button" value="Browse..."/> browse for image path)
Duration	Number in seconds, infinite (no entry)

3.5.2. Output state

Sets outputs OUT_1, OUT_2, OUT_3, and OUT_4 on OUTPUT port.

Following settings of this command are ignored:

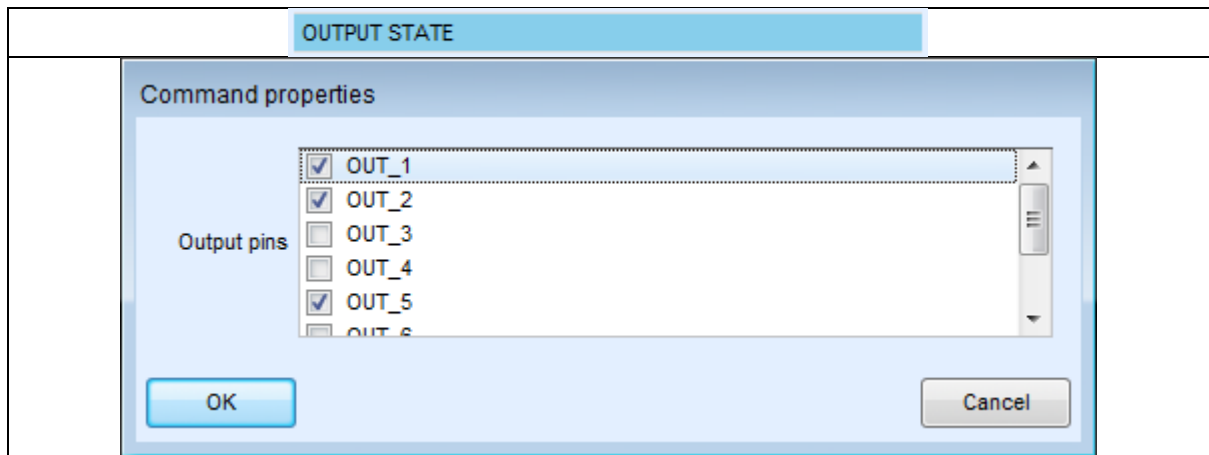
- OUT_1 and OUT_2 while Lamps HV mode is enabled.
- OUT_3 and OUT_4 while Lamps Pass / Fail mode is enabled.

All outputs are single normally opened relay contacts if not checked in Menu Output pins window.

Parameters:

<input checked="" type="checkbox"/> OUT_1	Set closed relay contact between OUTPUT pins 4 and 9
<input checked="" type="checkbox"/> OUT_2	Set closed relay contact between OUTPUT pins 3 and 8
<input checked="" type="checkbox"/> OUT_3	Set closed relay contact between OUTPUT pins 2 and 7

<input checked="" type="checkbox"/> OUT_4	Set closed relay contact between OUTPUT pins 1 and 6
<input checked="" type="checkbox"/> OUT_5	Applicable only when using CE Adapter A 1460
<input checked="" type="checkbox"/> OUT_6	
<input checked="" type="checkbox"/> OUT_7	
<input checked="" type="checkbox"/> OUT_8	



3.5.3. Lamps HV mode


Drives external lamps through OUT_1 and OUT_2 outputs. Works only in HV & HV programmable functions.

- Red lamp (OUT_1) ON means that the instrument is ready for HV test. Red lamp turns on before first flow command in step that contains HV test. Red lamp turns off after end of the HV test.
- Green lamp (OUT_2) blinking means that high voltage will be applied to WITHSTANDING (HV(~+) and HV(--)) test terminals as soon as all input conditions will be fulfilled.
- Green lamp (OUT_2) ON means that dangerous voltage is present at WITHSTANDING (HV(~+) and HV(--)) test terminals. Green lamp turns on before the measurement and turns off after the measurement.

While Lamps HV mode command is enabled the settings of Drive output command for OUT_1 and OUT_2 is ignored.

Parameters

State	On – enables Lamps HV mode Off – disables Lamps HV mode
-------	--

LAMPS HV mode	
	<div> <div>HV AC</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div> </div> <div> <div>HV AC programmable</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div> </div> <div> <div>HV DC</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div> </div> <div> <div>HV DC programmable</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div> </div>
Works only in HV & HV programmable functions.	
	<div>Command properties</div> <div>State On</div> <div>OK Cancel</div>
A 1496	

3.5.4. Lamps Pass / Fail mode

Drives external lamps through OUT_3 and OUT_4 outputs.

During measurement the lights reflect status icon in single test.

After measurement

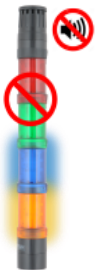
- Blue lamp (OUT_3) lights ON when test has passed. Lamp is lit until next step is started.
- Yellow lamp (OUT_4) lights ON when test has failed. Lamp is lit until next step is started.
- Lights turn off at the beginning of next step.

While Lamps Pass / Fail mode command is enabled the settings of Drive output command for OUT_3 and OUT_4 is ignored.

Parameters

State	On – enables Lamps Pass / Fail mode Off – disables Lamps Pass / Fail mode
-------	--

LAMPS PassFail mode

	<div data-bbox="534 226 1362 439"> <p>Command properties</p> <p>State: On</p> <p>OK Cancel</p> </div>
A 1497	

3.5.5. Buzzer mode


Passed or failed measurement is indicated with beeps.

- Pass – double beep after the test
- Fail – long beep after the test

Beep happens right after single test measurement.

Parameters

State	On – enables Buzzer mode Off – disables Buzzer mode
-------	--

BUZZER mode	
	<div data-bbox="534 1093 1362 1305"> <p>Command properties</p> <p>State: On</p> <p>OK Cancel</p> </div>
A 1496	



3.5.6. External TEST / OK key mode

Instrument enables external TEST / OK key (OK / ENTER / TEST / HV TEST) by activating INPUT pin 5 reading condition. Functionality of the EXTERNAL OK KEY mode is the same as of the OK / ENTER / TEST / HV TEST key.

Parameters

State	On – enables External TEST / OK key mode (INPUT pin 5 is active) Off – disables External TEST / OK key mode
-------	--

EXTERNAL OK KEY mode	
----------------------	--

	<div> <div>Command properties</div> <div>State On</div> <div>OK Cancel</div> </div>
A 1511	
	<div> <div>Command properties</div> <div>State On</div> <div>OK Cancel</div> </div>
A 1495	

3.5.7. No notifications mode

Instrument skips pre-test warnings (for more information see User Manual of specific instrument, chapter “Symbols and messages”).

Parameters

State	On – enables No notifications mode Off – disables No notifications mode
-------	--

NO NOTIFICATION mode	
<div>Warning!</div> <div>Resistance L–N is too high(>30 kOhm). Check fuse / switch. Would you like to proceed?</div> <div>YES NO</div>	<div>Command properties</div> <div>State On</div> <div>OK Cancel</div>
<div>Warning!</div> <div>Resistance L–N is very low (<10 Ohm). Would you like to proceed?</div> <div>YES NO</div>	<p>Few examples of warnings that will not be displayed on the instrument when using the NO NOTIFICATION mode flow command!!!</p>
<div>Warning!</div> <div>Leakage is high(>3.5 mA). Would you like to proceed?</div> <div>YES NO</div>	

3.5.8. Appliance info

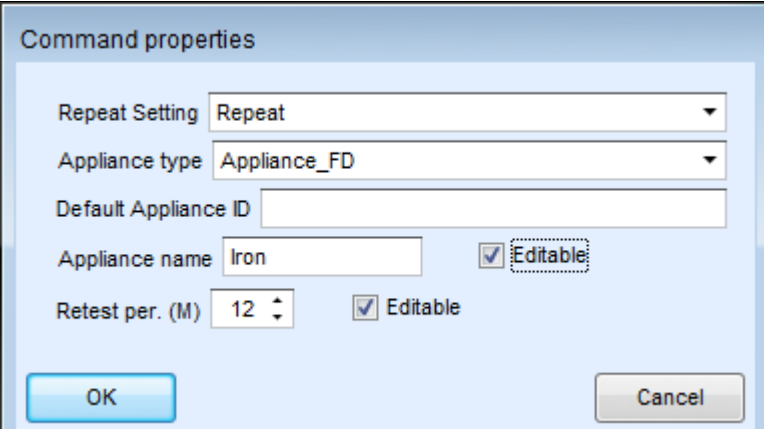
Instrument enables to automatically add the appliance name to the Auto Sequence®.

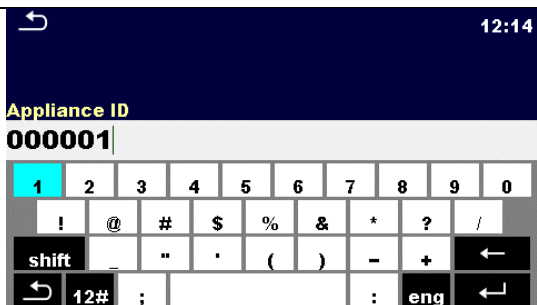
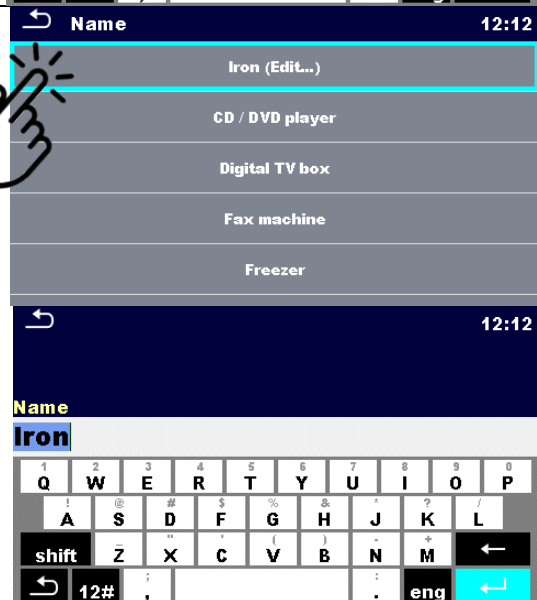
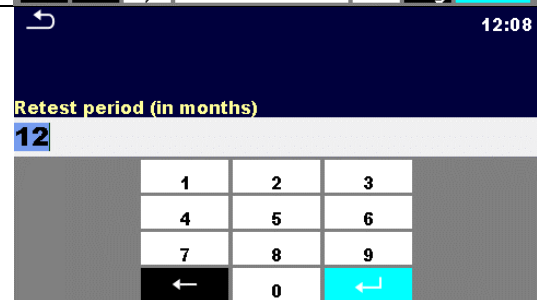
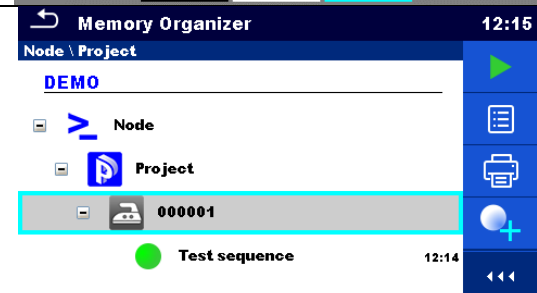
Parameters

Repeat Setting	Repeat:	The same Appliance ID will be offered each time if the same Auto Sequence® is carried out successively in a loop.
	Increment:	A four digit number will be added to the Appliance ID and incremented each time if the same Auto Sequence® is carried out successively in a loop.
Appliance type	Selects the type of the appliance (Appliance, Appliance_FD)	
Default Appliance ID	Enter default Appliance ID	
Appliance name	Enter Appliance name. Options: <input checked="" type="checkbox"/> Editable – allows Appliance name to be modified while running Auto Sequence®. Menu with a list of Appliance names and possibility to enter custom Appliance name is offered within the test. <input type="checkbox"/> Not editable – Default Appliance name is used. Appliance name cannot be modified while running Auto Sequence®.	
Retest period	Retest period in months. Options: <input checked="" type="checkbox"/> Editable – allows Retest period to be modified while running Auto Sequence®. Numeric keypad for entering custom Retest period is offered within the test. <input type="checkbox"/> Not editable – Default Retest period is used. Retest period cannot be modified while running Auto Sequence®.	

Note

- This flow command is active only if Auto Sequence® is started from the Auto Sequences® Main menu.

APPLIANCE INFO	
Appliance info flow command enables following options on the instrument.	

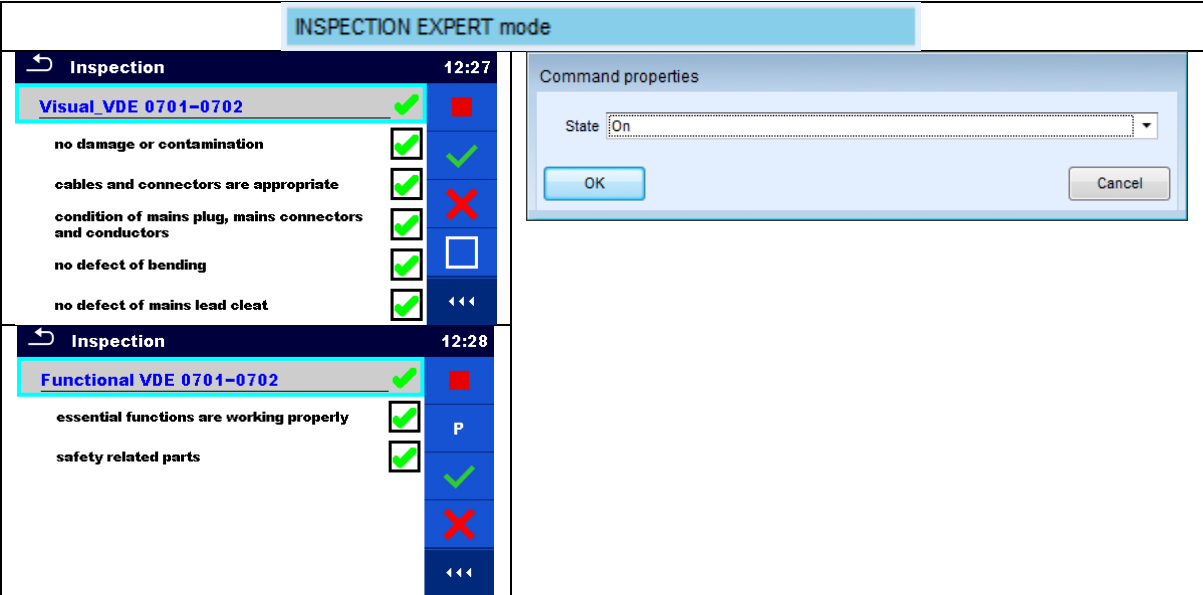
Entering Default appliance ID		
Entering appliance name		
Entering Retest period (in months)		
Automatic generation of Selected Appliance type in the structure		

3.5.9. Inspection Expert mode

If Inspection Expert mode flow command is set, the Visual inspection screen and Functional inspection screen within Auto Sequence[®] are displayed for 1 second and an overall PASS is automatically applied at the end of test. In between, the automatic procedure can be stopped and statuses can be applied manually. Inspection Expert mode is disabled by default.

Parameters

State	On – enables automatic settings of tickers in Visual and Functional tests. Off – disables automatic settings of tickers in Visual and Functional tests.
-------	--

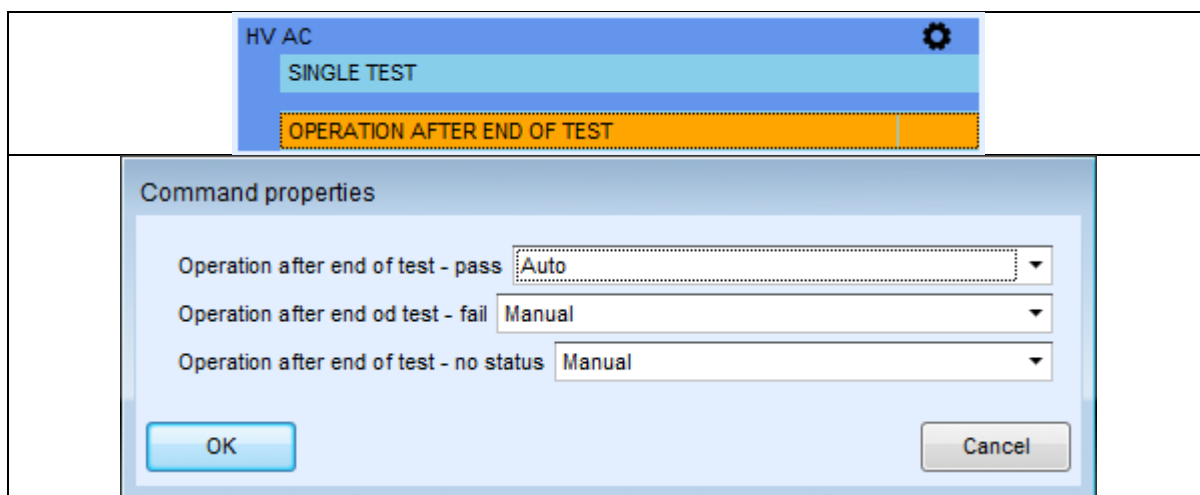


3.5.10. Operation after end of test

This flow command controls the proceeding of the Auto Sequence® in regard to the measurement results.

Parameters

Operation after end of test – pass – fail – no status	The operation can be individually set for the case the measurement passed, failed or ended without a status.	
	Manual:	The test sequence stops and waits for appropriate command (TEST key, external command...) to proceed.
	Auto:	The test sequence automatically proceeds.



3.5.11. Result screen

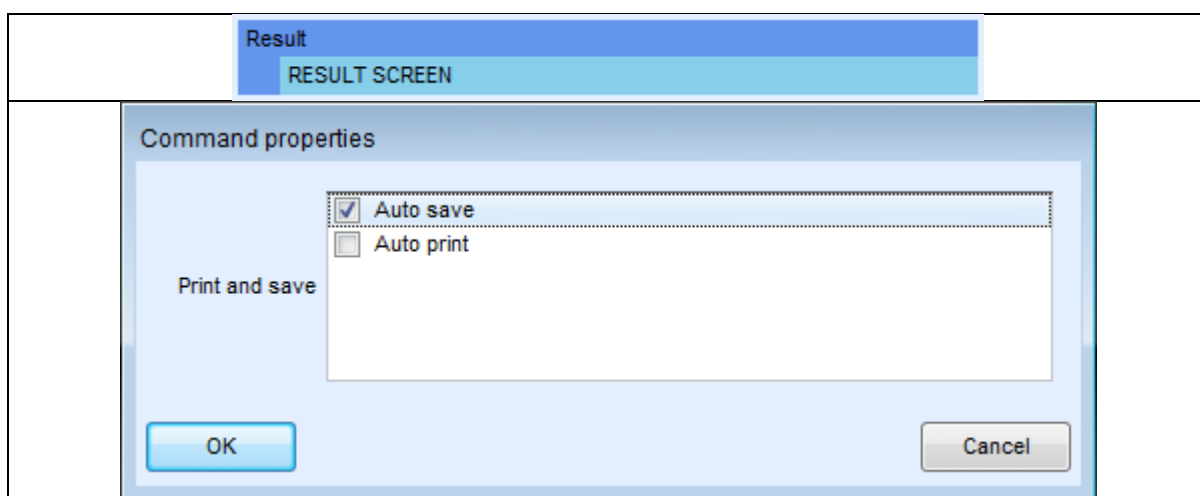
This flow command controls the proceeding after the Auto Sequence® has ended.

Parameters

Auto Save	<p>Auto Sequence® results are stored in the momentary workspace.</p> <p>A new Node with the month and year will be created. Under the Node Auto Sequence® results or (if Appliance info flow command is set) a new appliance and Auto Sequence® results will be stored.</p> <p>Up to 100 Auto Sequence® results or appliances can be automatically stored under the same node. If more results / appliances are available, they are split to multiple nodes.</p> <p>Local Save Flow setting is disabled by default.</p>
Auto Print	Auto Sequence® results are automatically printed.

Notes

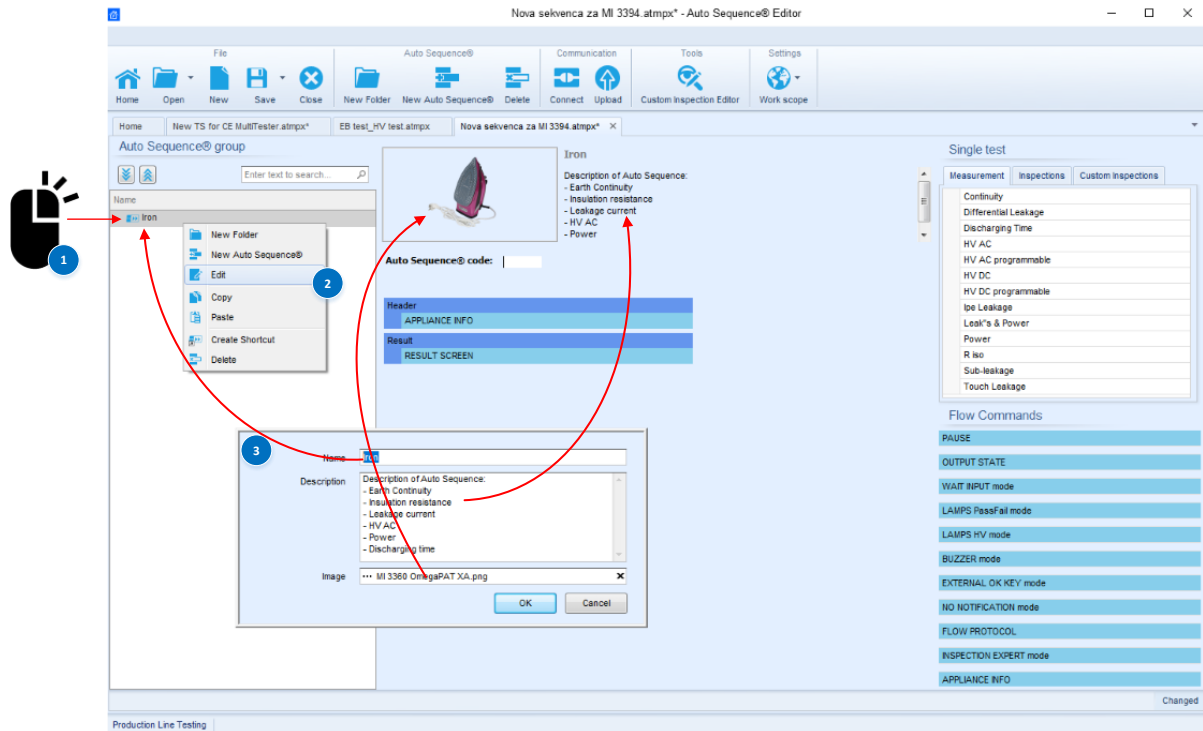
- This flow command is active only if Auto Sequence® is started from the Auto Sequences® Main menu (not from Memory organizer).



4. Manage sequence step by step

4.1. Editing test sequence parameters

Each test sequence can be custom named, equipped with description and image.

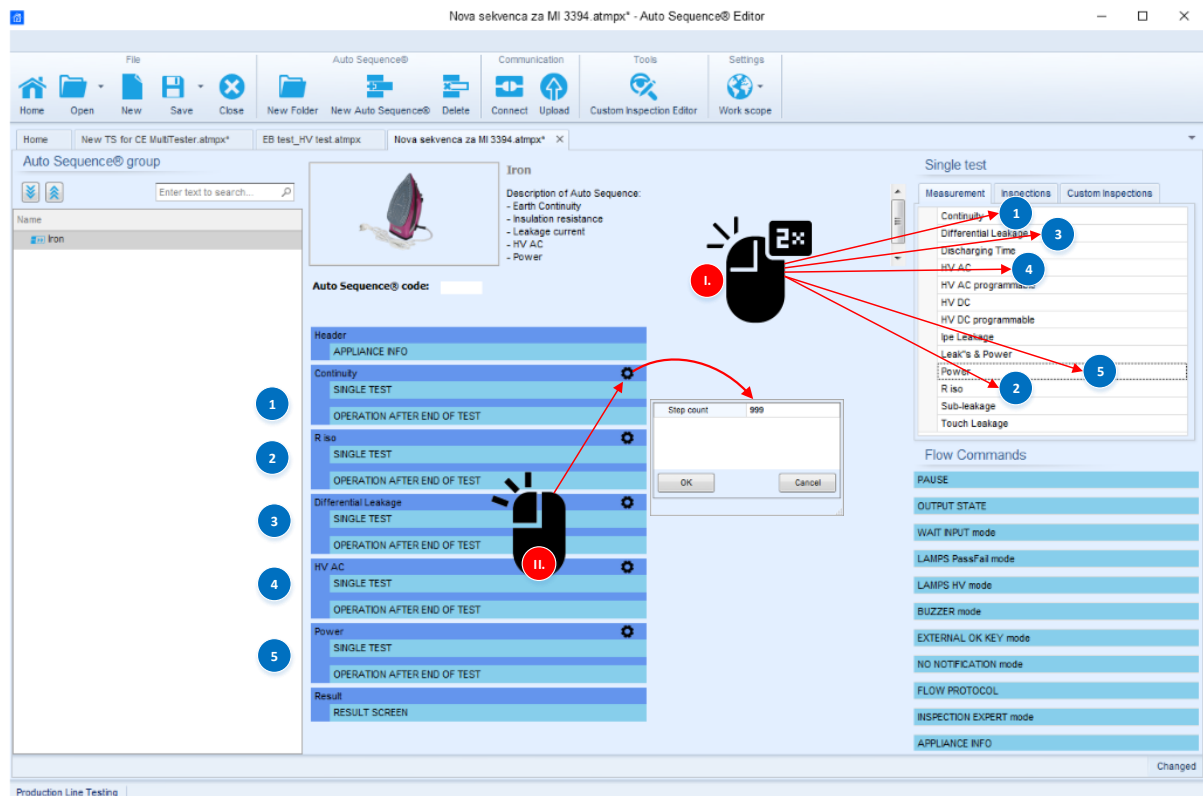


4.2. Adding and editing measurements

From the list of available single tests;

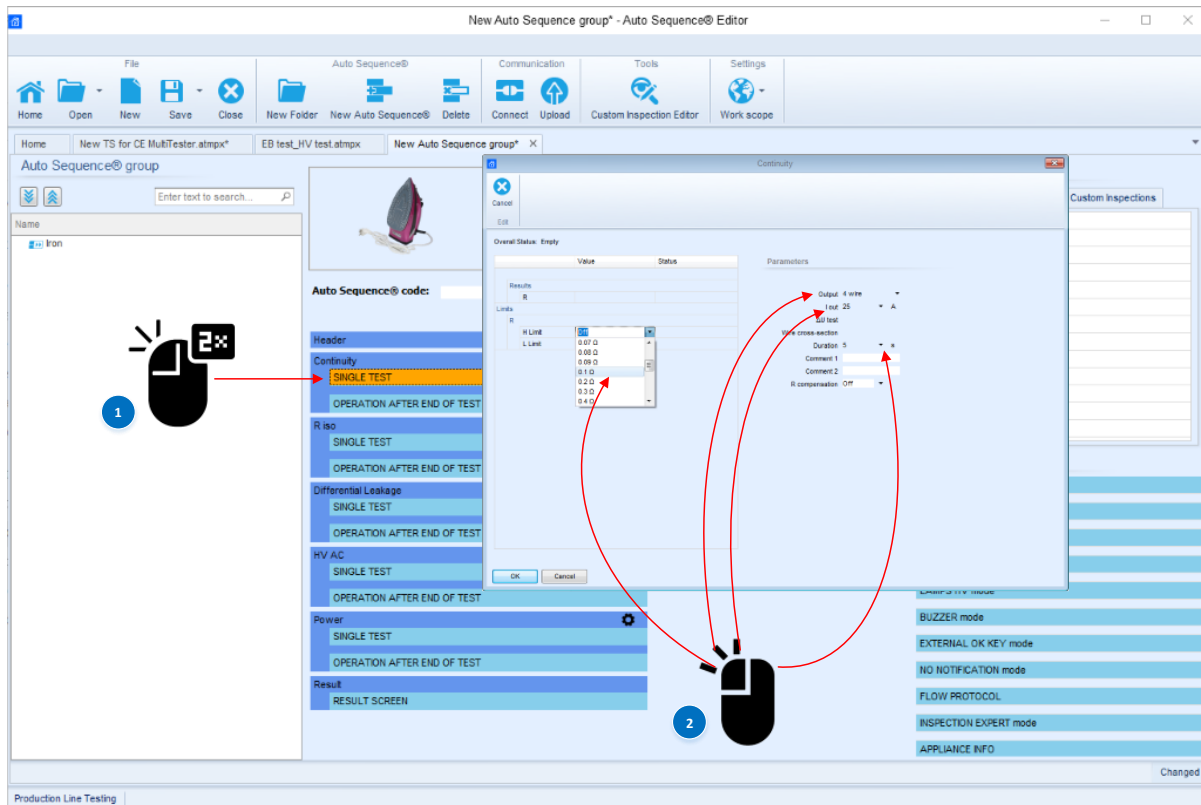
- measurements,
- inspections or,
- custom inspections can be added to the sequence structure.

Number of individual measurements is not limited, measurements order is not specified, these enables creation of arbitrary test sequence. Step count can be defined for each individual single test, limit of steps is set to **999 steps**.

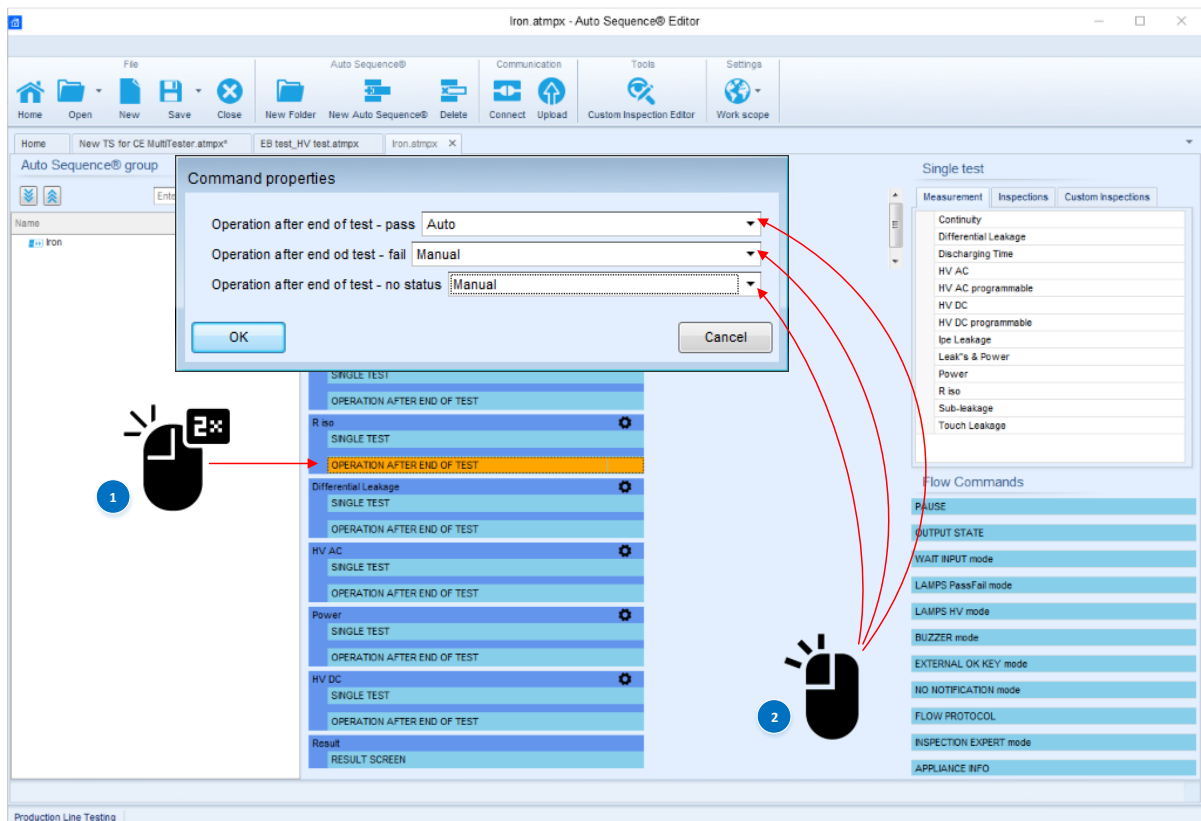


Each individual single test has several editable parameters, depending on the specifics of the test:

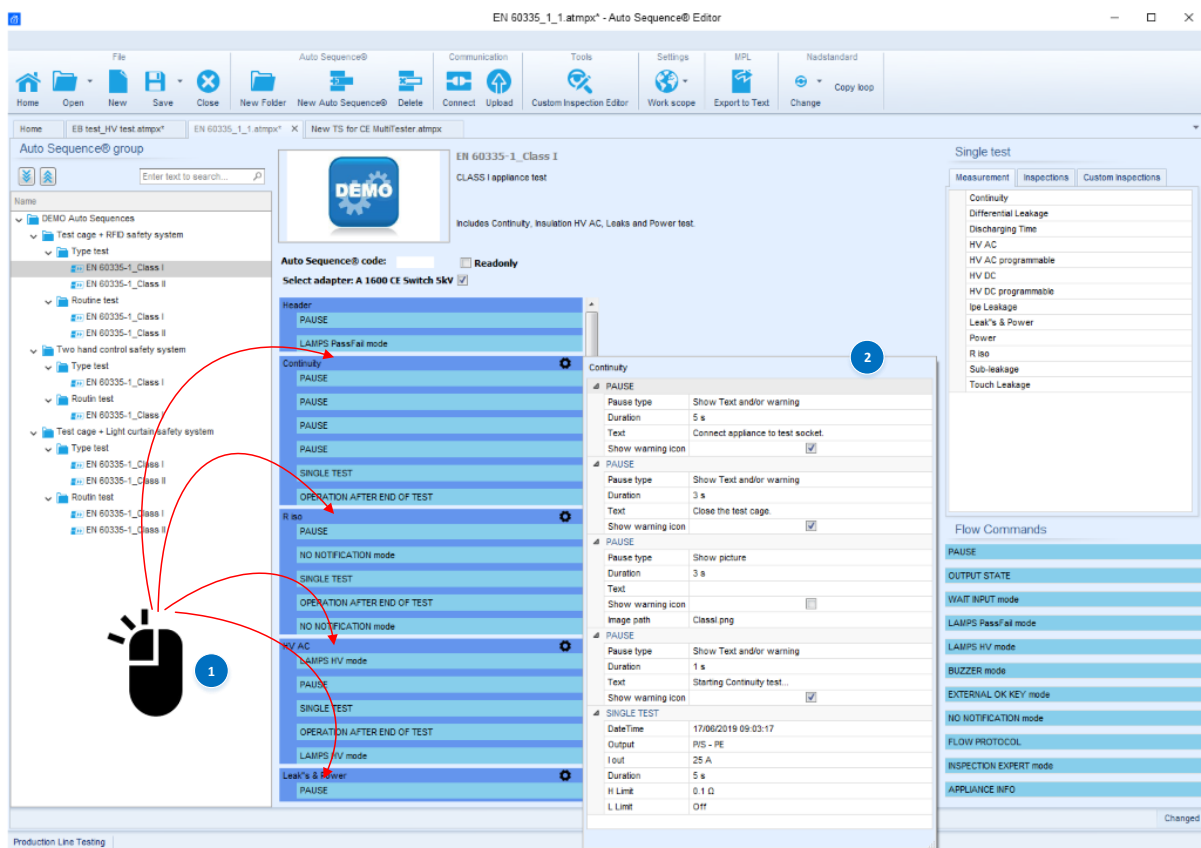
- Outputs,
- Types of measurement,
- Duration,
- Limits (High & Low),
- Comments, etc., can be set.



In addition to editable test parameters each individual test has a built in flow command, used to control the flow of the measurement, after end of test. Operation after end of test can be set for different test status: Pass, Fail, or No status.



A quick overview of set parameters is possible by clicking on the header of a specific test.



5. Examples of Auto Sequences

The Auto Sequence[®] consists of a sequence of individual tests. The progress of individual tests can be controlled using flow commands. The CE MultiTester instrument enables the execution of individual tests via various test terminals. Performing test sequences via different test terminals is often not the most appropriate solution from an application point of view. Various active adapters are available to perform integrated test sequences via a common test terminal. One such is the CE Adapter A 1460.

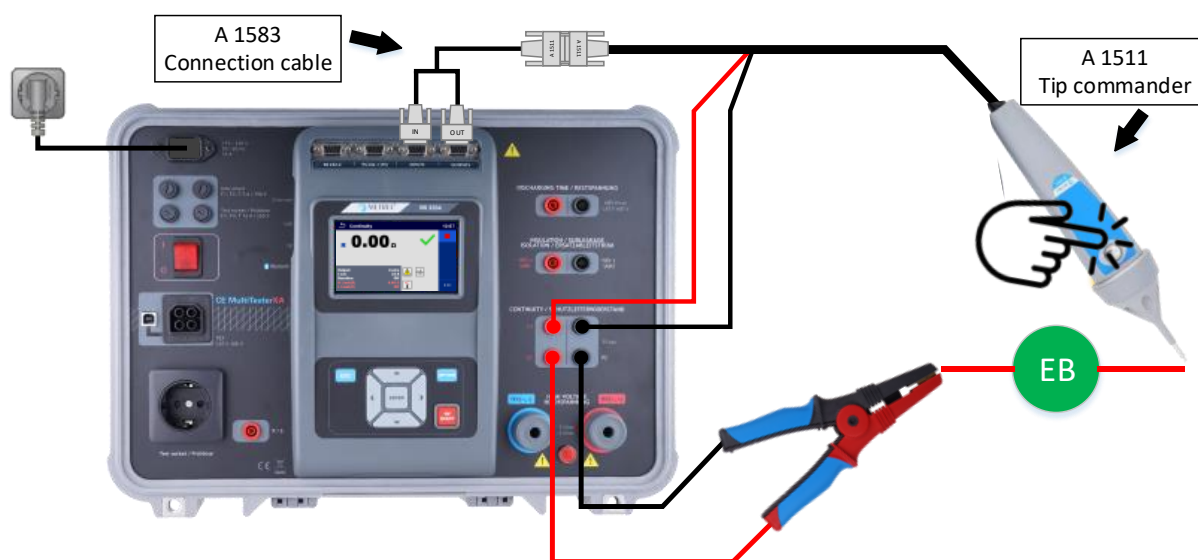
The following sections will show possible execution of test sequences with and without the use of active adapters. It will also be shown how optional accessories controlled by the flow commands can be connected and used.

5.1. How to enable remote start with optional A 1511.

The instrument supports many different optional accessories, one of the more useful ones is certainly the A 1511 Tip commander. In following case Tip commander will be used for remote controlled execution of 4-wire Continuity test and indication of PASS / FAIL status of the measurement with commander's indication LED's.

In the following steps it will be shown:

- How to enable remote control with A 1511, using flow commands:
 - o >EXTERNAL OK KEY mode<
- Use of flow command >PAUSE<
- Execution of 4-wire Earth continuity (EB)
- How to enable Auto save



<div><div>Header</div><div>EXTERNAL OK KEY mode</div><div>PAUSE</div><div>Continuity</div><div>SINGLE TEST</div><div>OPERATION AFTER END OF TEST</div><div>Continuity</div><div>SINGLE TEST</div><div>OPERATION AFTER END OF TEST</div><div>Result</div><div>RESULT SCREEN</div></div>																
<div><div>Header</div><div>EXTERNAL OK KEY mode</div><div>PAUSE</div></div>	<div><div>Command properties</div><div>State On</div><div>OK</div><div>Cancel</div></div>															
<div><div>Header</div><div>EXTERNAL OK KEY mode</div><div>PAUSE</div></div>	<div><div>Command properties</div><div>Pause type Show Text and/or warning</div><div>Duration infinite</div><div>PRESS START ON A 1511 or A 1495!!!</div><div>Text</div><div>Show warning icon</div><div>OK</div><div>Cancel</div></div>															
<div><div>Continuity</div><div>SINGLE TEST</div><div>OPERATION AFTER END OF TEST</div></div>	<div><div>Continuity</div><div>OK</div><div>Cancel</div><div><div>Channel Status Empty</div><table><thead><tr><th>Results</th><th>Value</th><th>Status</th></tr></thead><tbody><tr><td>R</td><td></td><td></td></tr><tr><td>L</td><td></td><td></td></tr><tr><td>H Line</td><td>0.0</td><td></td></tr><tr><td>L Line</td><td>OFF</td><td></td></tr></tbody></table><div><div>Parameters</div><div>Output 4 wire</div><div>Test 0.2</div><div>GFI test</div><div>Wire cross section</div><div>Duration 3</div><div>Connect 1</div><div>Connect 2</div><div>R compensation OFF</div></div></div></div>	Results	Value	Status	R			L			H Line	0.0		L Line	OFF	
Results	Value	Status														
R																
L																
H Line	0.0															
L Line	OFF															
<div><div>Continuity</div><div>SINGLE TEST</div><div>OPERATION AFTER END OF TEST</div></div>	<div><div>Command properties</div><div>Operation after end of test - pass Manual</div><div>Operation after end of test - fail Manual</div><div>Operation after end of test - no status Manual</div><div>OK</div><div>Cancel</div></div>															
<div><div>Continuity</div><div>SINGLE TEST</div><div>OPERATION AFTER END OF TEST</div></div>	<div><div>Continuity</div><div>OK</div><div>Cancel</div><div><div>Channel Status Empty</div><table><thead><tr><th>Results</th><th>Value</th><th>Status</th></tr></thead><tbody><tr><td>R</td><td></td><td></td></tr><tr><td>L</td><td></td><td></td></tr><tr><td>H Line</td><td>0.0</td><td></td></tr><tr><td>L Line</td><td>OFF</td><td></td></tr></tbody></table><div><div>Parameters</div><div>Output 4 wire</div><div>Test 0.2</div><div>GFI test</div><div>Wire cross section</div><div>Duration 3</div><div>Connect 1</div><div>Connect 2</div><div>R compensation OFF</div></div></div></div>	Results	Value	Status	R			L			H Line	0.0		L Line	OFF	
Results	Value	Status														
R																
L																
H Line	0.0															
L Line	OFF															

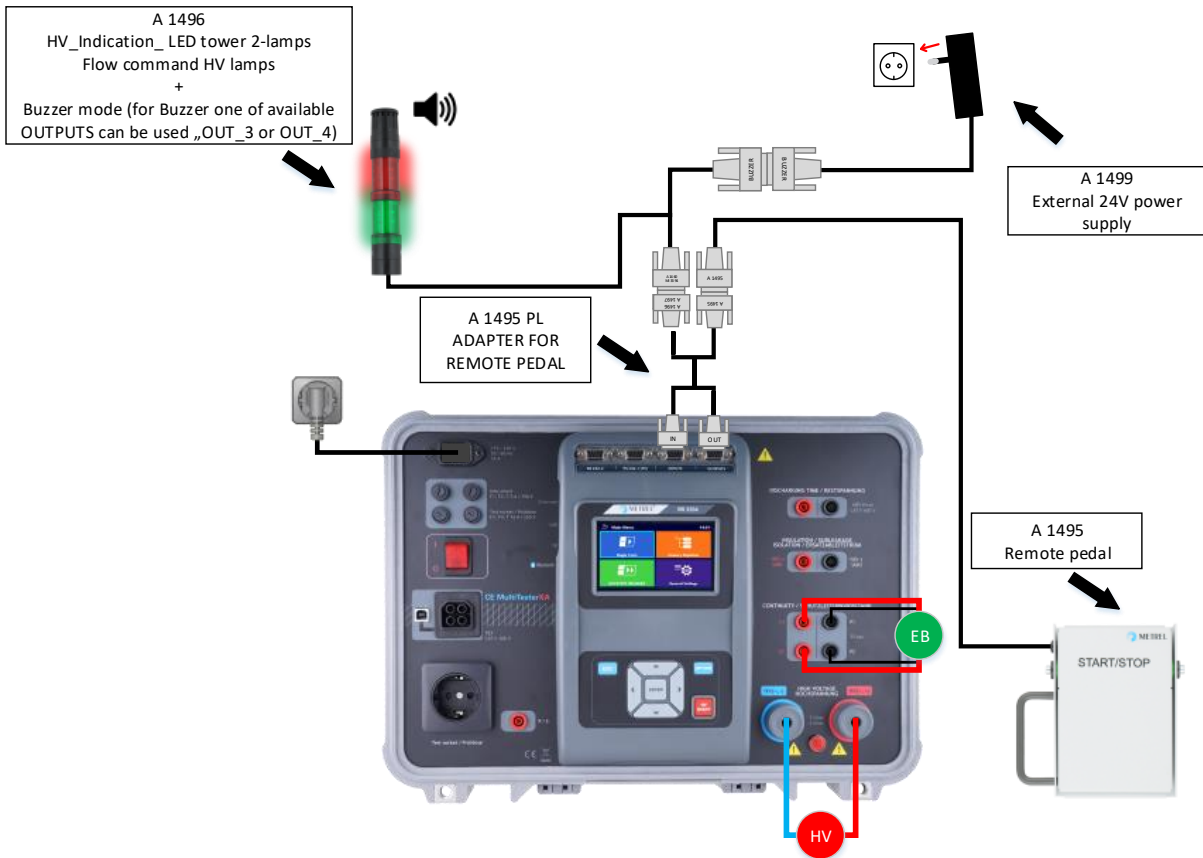
5.2. How to enable, HV lamps & Buzzer

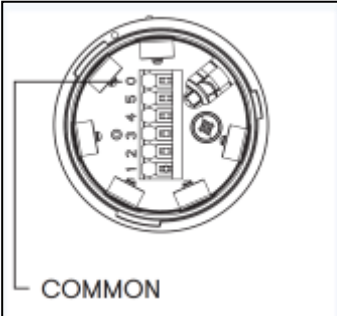

The MI 3394 instrument is intended, among other things, for performing high-voltage tests. With the correct configuration of the test sequence, and the correctly set / connected optional accessories, it is possible to enable the external signal lights required when performing the HV test. The following example will show how to prepare a test sequence that will enable HV lamps & remote start of a test sequence over the remote pedal.

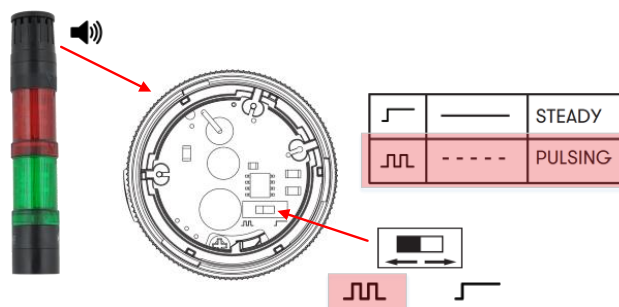
In the following steps it will be shown:

- How to connect and enable HV lamps, using flow command
 - o LAMPS HV mode
- How to connect and enable/disable buzzer, using flow command
 - o OUTPUT STATE
- How to connect and enable remot control with pedal, using flow command
 - o >EXTERNAL OK KEY mode<
- Use of flow command >PAUSE<
- Execution of 4-W Earth continuity test (EB)
- Execution of High voltage test (HV)
- How to manually save results into Memory Organizer

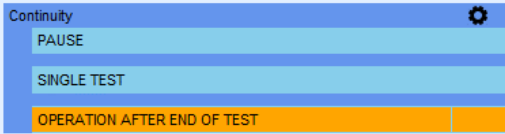
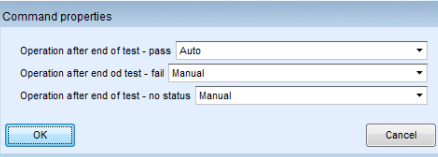
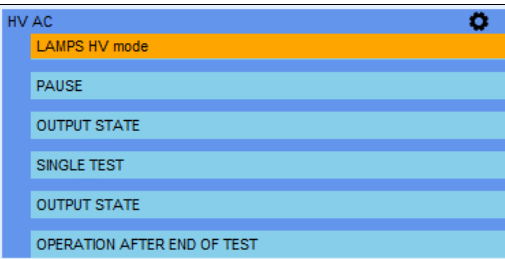
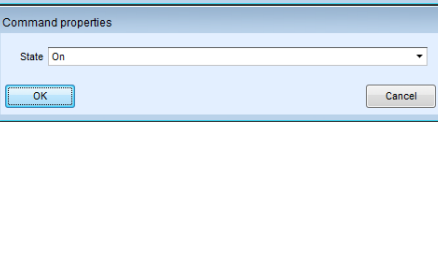
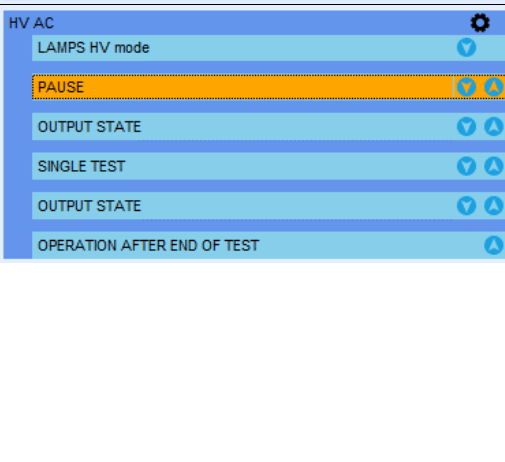
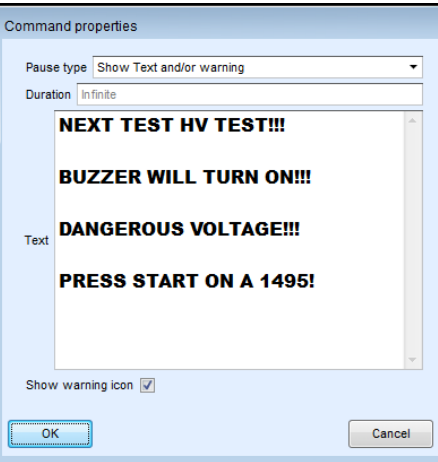
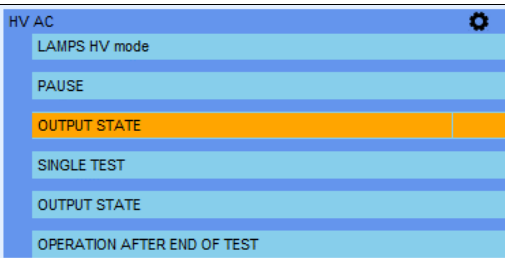
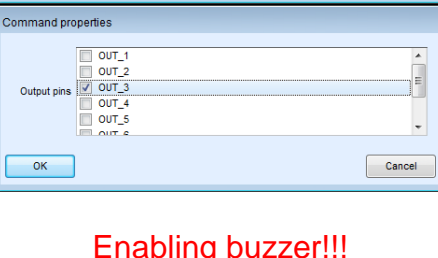
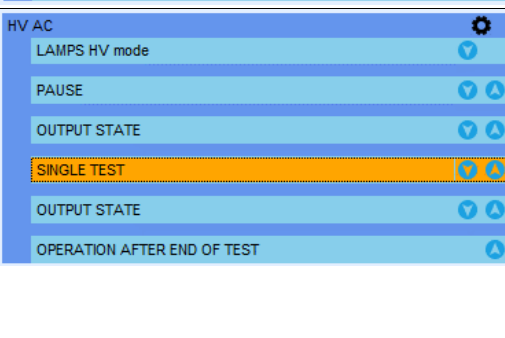
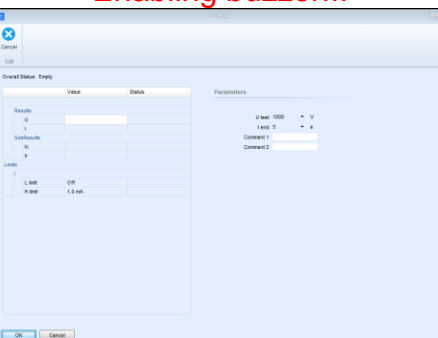
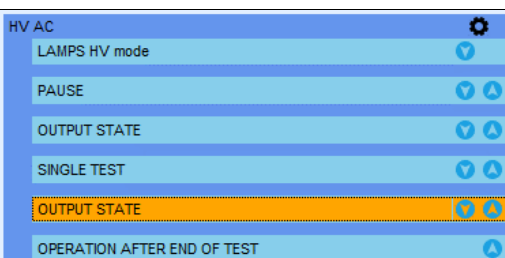
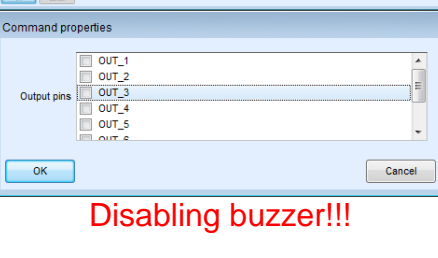
By using Auto Sequences, it is possible to enable remote control of the instrument, as well as the use of HV lights and buzzer. For proper operation of the entire system, the following instructions must be considered when setting the Auto Sequences.



	
COMMON	
Rs232 cable	
Enabling buzzer on A 1496, connected to CE MultiTester	
LED TOWER (PIN CONNECTOR)	RS232 CABLE
GND (0)	Gray / Grau
/ (5)	/
/ (4)	/
Buzzer (3)	Brown/braun (Output 3) or White / Weiß (Output 4)
Red LED (2)	Pink / Rosa
Green LED (1)	Yellow / Gelb



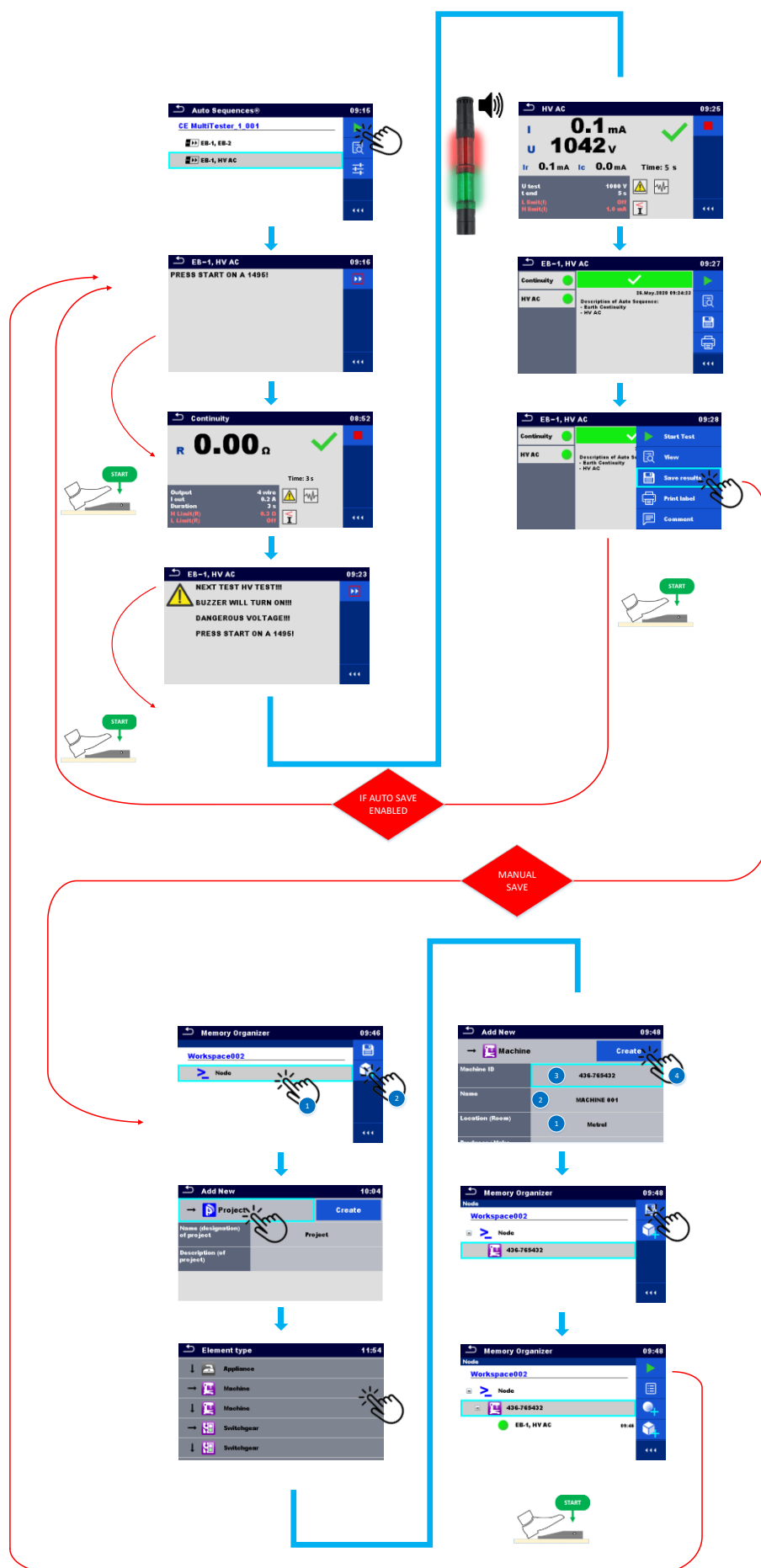
	<p>Header</p> <p>EXTERNAL OK KEY mode</p> <p>Continuity</p> <p>PAUSE</p> <p>SINGLE TEST</p> <p>OPERATION AFTER END OF TEST</p> <p>HV AC</p> <p>LAMPS HV mode</p> <p>PAUSE</p> <p>OUTPUT STATE</p> <p>SINGLE TEST</p> <p>OUTPUT STATE</p> <p>OPERATION AFTER END OF TEST</p> <p>Result</p> <p>RESULT SCREEN</p>	
<p>Header</p> <p>EXTERNAL OK KEY mode</p>		<p>Command properties</p> <p>State On</p> <p>OK Cancel</p>
<p>Continuity</p> <p>PAUSE</p> <p>SINGLE TEST</p> <p>OPERATION AFTER END OF TEST</p>		<p>Command properties</p> <p>Pause type Show Text and/or warning</p> <p>Duration Infinite</p> <p>PRESS START ON A 1495!</p> <p>Text</p> <p>Show warning icon</p> <p>OK Cancel</p>
<p>Continuity</p> <p>PAUSE</p> <p>SINGLE TEST</p> <p>OPERATION AFTER END OF TEST</p>		<p>Command properties</p> <p>Result</p> <p>Value</p> <p>Status</p> <p>Parameters</p> <p>Output 0.000</p> <p>Test 0.2</p> <p>0.0 test</p> <p>Wave compensation</p> <p>Duration 3</p> <p>Comment 1</p> <p>Comment 2</p> <p>R compensation OFF</p> <p>OK Cancel</p>

Enabling buzzer!!!

Disabling buzzer!!!

<div><div>HV AC</div><div>LAMPS HV mode</div><div>PAUSE</div><div>OUTPUT STATE</div><div>SINGLE TEST</div><div>OUTPUT STATE</div><div>OPERATION AFTER END OF TEST</div></div>	<div><div>Command properties</div><div>Operation after end of test - passAuto</div><div>Operation after end of test - failManual</div><div>Operation after end of test - no statusManual</div><div>OK</div><div>Cancel</div></div>
<div><div>Result</div><div>RESULT SCREEN</div></div>	<div><div>Command properties</div><div><div><div>Auto save</div><div>Auto print</div></div><div>Print and save</div></div><div>OK</div><div>Cancel</div></div>

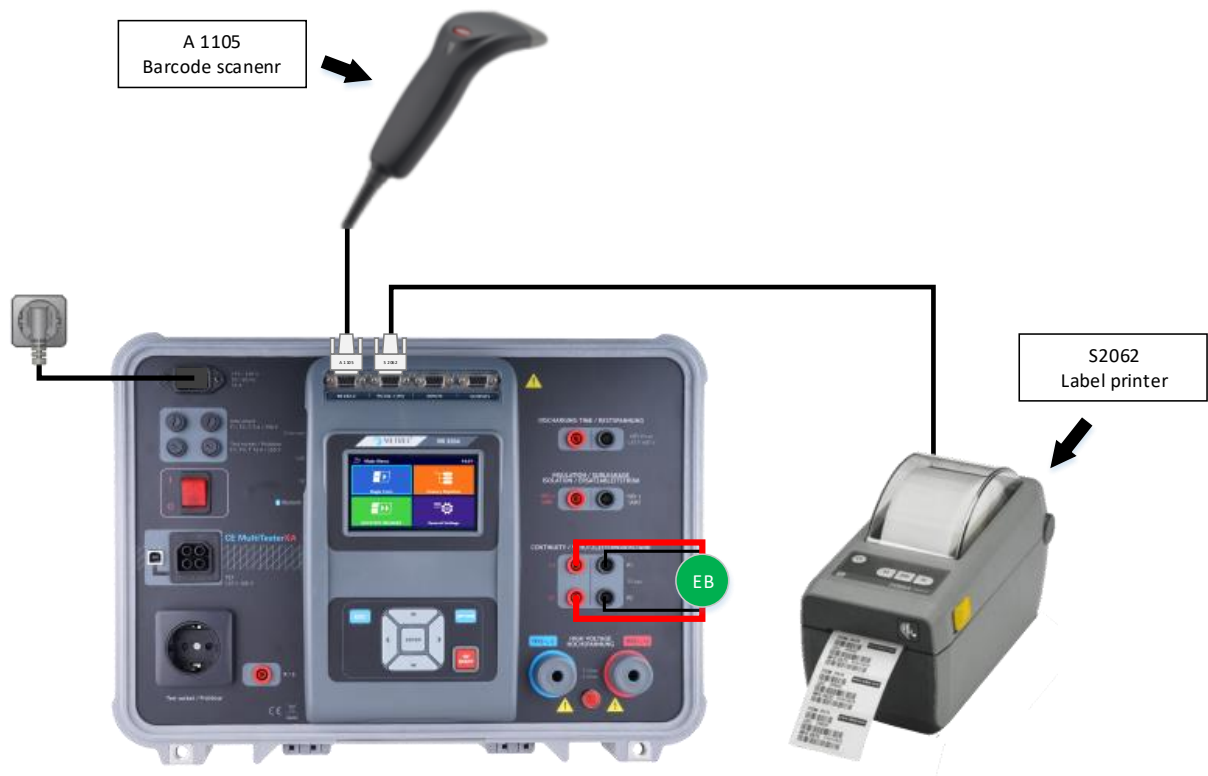


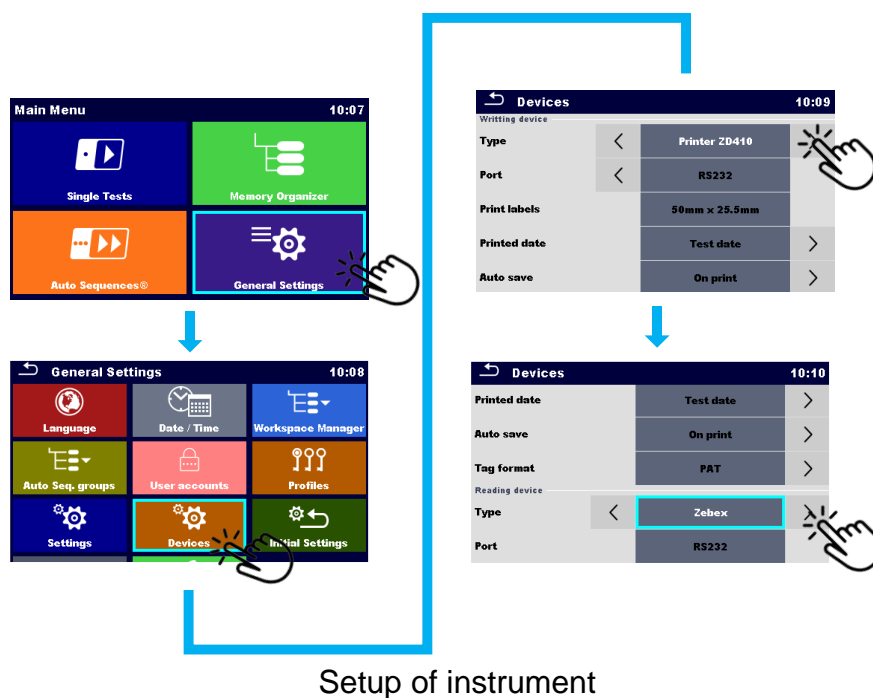
5.3. How to enable barcode reader and auto print

One of the instrument's strong features is the support of optional peripheral devices such as reading and writing devices. The following example will show how to prepare a test sequence that will enable HV lamps & remote start of a test sequence over the remote pedal.

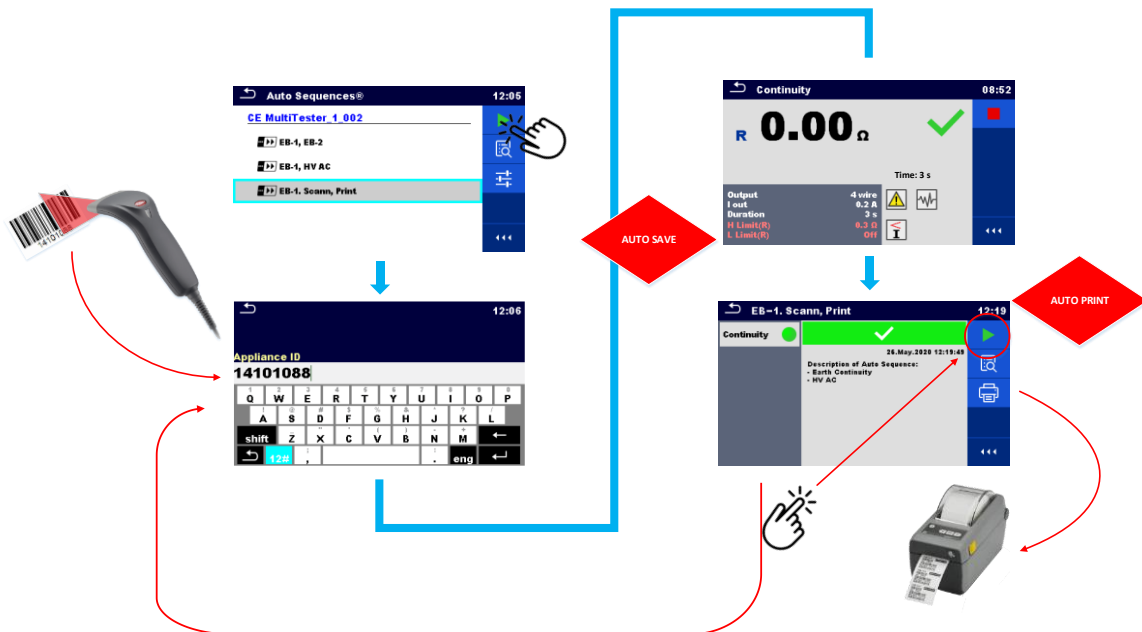
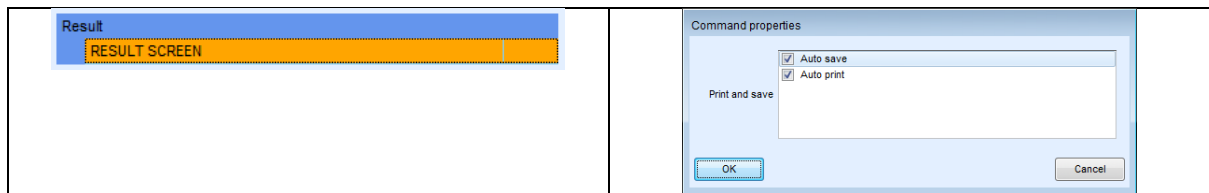
In the following steps it will be shown:

- How to Setup, barcode printer & Barcode scanner
- How to connect and enable Barcode scanner, using flow command
 - o APPLIANCE INFO
- Execution of 4-W Earth continuity test (EB)
- How to enable auto save, using command
 - o Auto save
- How to connect and enable barcode printer, using command
 - o Auto print





	<div>Header</div> <div>APPLIANCE INFO</div> <div>Continuity</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div> <div>Result</div> <div>RESULT SCREEN</div>	
<div>Header</div> <div>APPLIANCE INFO</div>		<div>Command properties</div> <div>Repeat Setting Repeat</div> <div>Appliance type Appliance</div> <div>Default Appliance ID</div> <div>Appliance name Editable</div> <div>Retest per. (M) 12 Editable</div> <div>OK Cancel</div>
<div>Continuity</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div>		<div>Overall Status: Empty</div> <div>Results</div> <div>Value</div> <div>Status</div> <div>Parameters</div> <div>OK Cancel</div>
<div>Continuity</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div>		<div>Command properties</div> <div>Operation after end of test - pass Auto</div> <div>Operation after end of test - fail Manual</div> <div>Operation after end of test - no status Manual</div> <div>OK Cancel</div>



5.4. How to enable PASS/FAIL lamps, HV lamps, remote control and disable notifications.

In certain cases, in addition to the indication of the high-voltage test, an indication of the status of the results (PASS / FAIL) is also desirable.

This is especially welcome in applications where tests are run using a remote control (test pedal, or tip commander), and where the user does not always have the option to look at the instrument's screen to evaluate test results.

The following example will show how to prepare a test sequence that will enable PASS/FAIL status lamps, HV lamps & remote start of a test sequence over the remote pedal.

Note!

In certain tests, the measuring instrument checks "in the pre-test" whether the tested device connected to the instrument test terminals meets certain pre-set criteria. If the connected device does not meet the criteria set in the measuring instrument, a warning/notification message appears on the instrument screen.

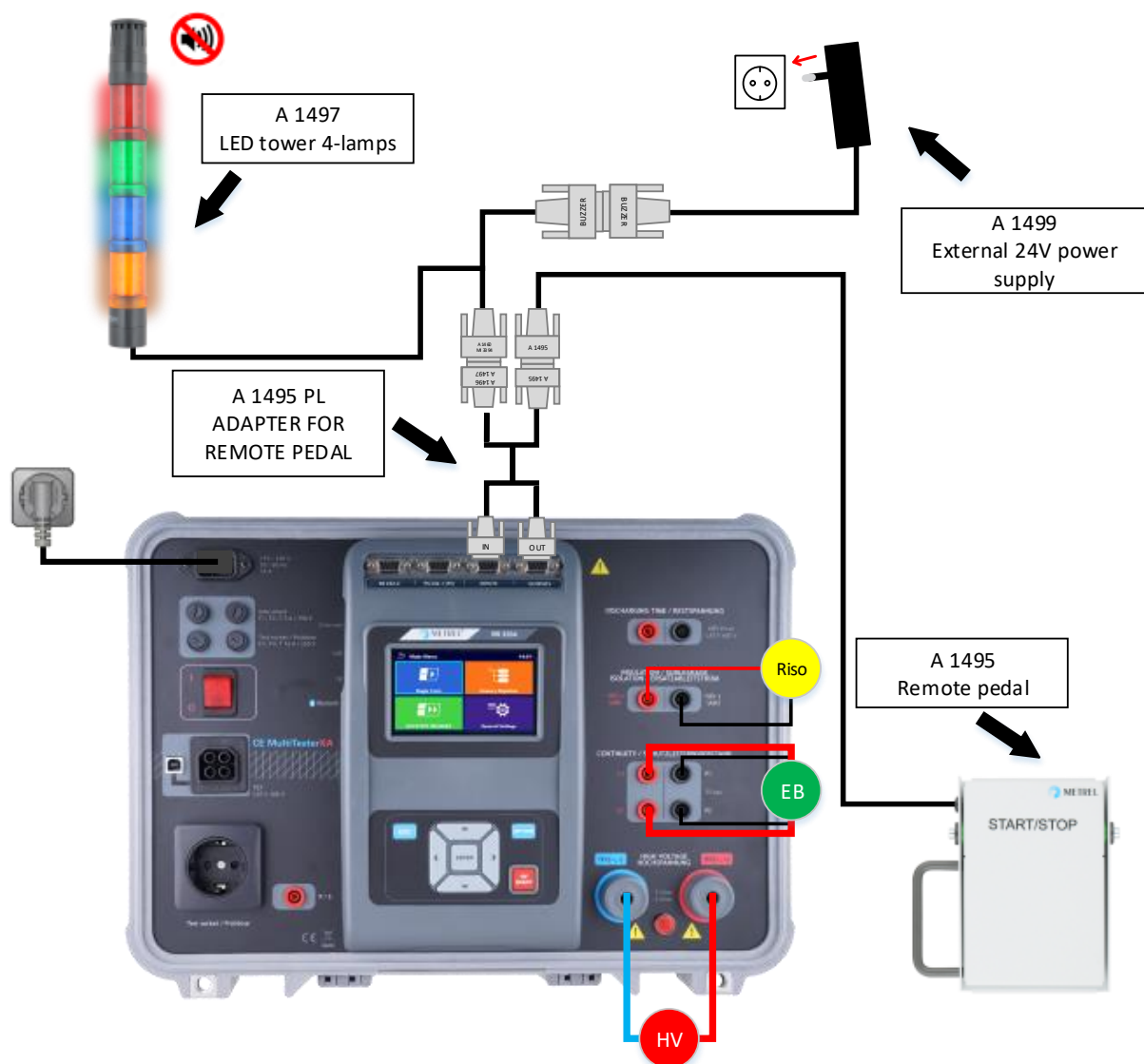
These warning/notification messages can indicate the user different statuses:


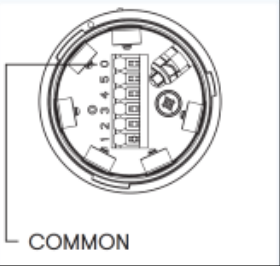
- whether the tested device (ON / OFF) switch must be turned on,
- whether the device connected to the test socket is faulty, etc...

Using Flow command “NO NOTIFICATION mode” these warning/notification messages can be automatically skipped.

In the following steps it will be shown:

- How to connect and enable remote control with A 1495, using flow command
 - o >EXTERNAL OK KEY mode<
- How to connect and enable HV + PASS/FAIL lamps (A 1497), using flow commands
 - o LAMPS HV mode
 - o LAMPS passFail mode
- Use of flow command >PAUSE<
- Execution of Insulation resistance test (Riso)
- Execution of 4-W Earth continuity test (EB)
- Execution of High voltage test (HV)
- Execution of Insulation resistance test (Riso)
- How to enable auto save, using command
 - o Auto save





Rs232 cable

Enabling buzzer on A 1496, connected to CE MultiTester	
LED TOWER (PIN CONNECTOR)	RS232 CABLE
GND (0)	Gray / Grau
Buzzer (5)	/ (Not supported in this configuration)
Red LED (4)	Pink / Rosa
Green LED (3)	Yellow / Gelb
Blue LED (2)	Brown / Braun
Orange LED (1)	White / Weiß



Header

EXTERNAL OK KEY mode

LAMPS PassFail mode

Continuity

PAUSE

SINGLE TEST

OPERATION AFTER END OF TEST

HV AC

LAMPS HV mode

PAUSE

SINGLE TEST

OPERATION AFTER END OF TEST

R iso

NO NOTIFICATION mode

SINGLE TEST

OPERATION AFTER END OF TEST

Result

RESULT SCREEN

Header

EXTERNAL OK KEY mode

LAMPS PassFail mode

Header

EXTERNAL OK KEY mode

LAMPS PassFail mode

Continuity

PAUSE

SINGLE TEST

OPERATION AFTER END OF TEST

Command properties

State On

OK

Cancel

Command properties

State On

OK

Cancel

Command properties

Pause type Show picture

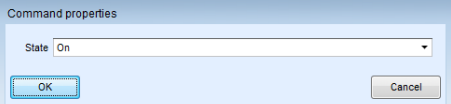
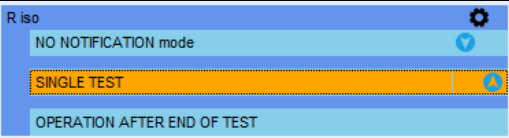
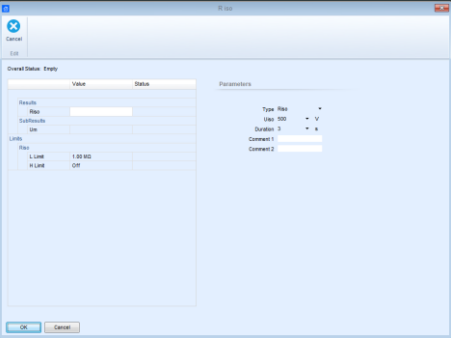
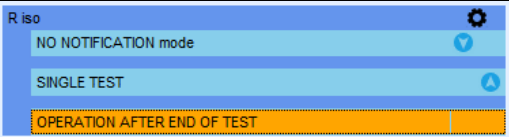
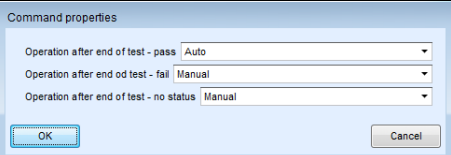

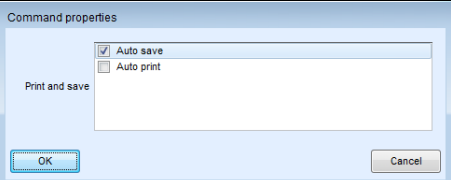
Duration Infinite

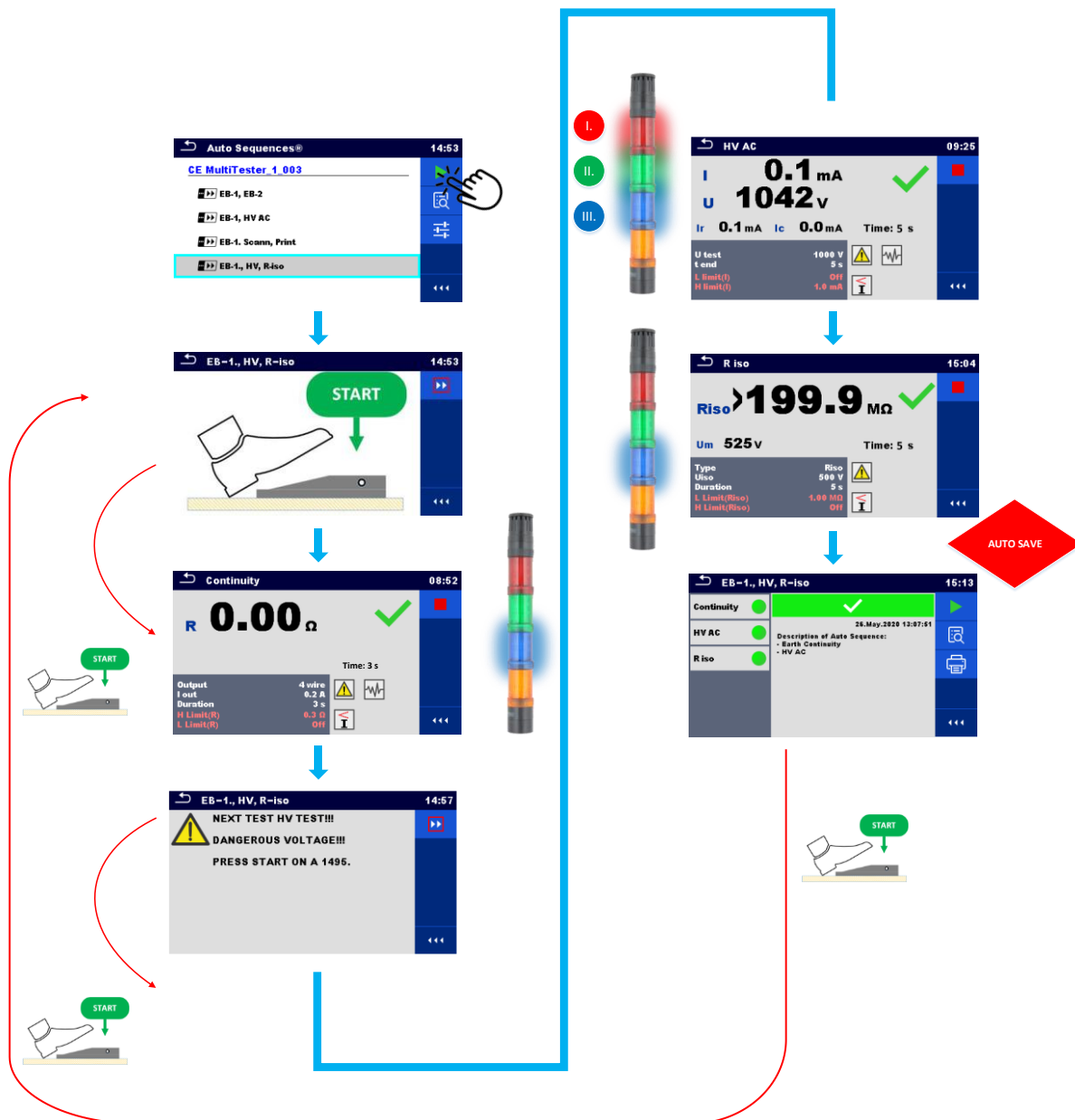
Image path start pedal.png

OK

Cancel

<div> <div>Continuity</div> <div> <div>PAUSE</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div> </div> </div>	
<div> <div>Continuity</div> <div> <div>PAUSE</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div> </div> </div>	<div> <div>Command properties</div> <div> <div>Operation after end of test - pass</div> <div>Auto</div> <div>Operation after end of test - fail</div> <div>Manual</div> <div>Operation after end of test - no status</div> <div>Manual</div> </div> <div>OK Cancel</div> </div>
<div> <div>HV AC</div> <div> <div>LAMPS HV mode</div> <div>PAUSE</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div> </div> </div>	<div> <div>Command properties</div> <div> <div>State</div> <div>On</div> </div> <div>OK Cancel</div> </div>
<div> <div>HV AC</div> <div> <div>LAMPS HV mode</div> <div>PAUSE</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div> </div> </div>	<div> <div>Command properties</div> <div> <div>Pause type</div> <div>Show Text and/or warning</div> <div>Duration</div> <div>Infinite</div> <div>Text</div> <div> NEXT TEST HV TEST!!! DANGEROUS VOLTAGE!!! PRESS START ON A 1495. </div> <div>Show warning icon</div> <div><input checked="" type="checkbox"/></div> <div>OK Cancel</div> </div> </div>
<div> <div>HV AC</div> <div> <div>LAMPS HV mode</div> <div>PAUSE</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div> </div> </div>	
<div> <div>HV AC</div> <div> <div>LAMPS HV mode</div> <div>PAUSE</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div> </div> </div>	<div> <div>Command properties</div> <div> <div>Operation after end of test - pass</div> <div>Auto</div> <div>Operation after end of test - fail</div> <div>Manual</div> <div>Operation after end of test - no status</div> <div>Manual</div> </div> <div>OK Cancel</div> </div>
<div> <div>R iso</div> <div> <div>NO NOTIFICATION mode</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div> </div> </div>	<div> <div>Warning!</div> <div>Resistance L-N is too high(>30 kOhm). Check fuse / switch. Would you like to proceed?</div> <div>YES NO</div> </div> <div> <div>Possible cause:</div> <div>Device under test is not switched on.</div> <div>Message will be skipped!</div> </div>



5.5. How to enable test setup with CE Adapter A 1460

This section shows how to prepare a test sequence to be performed in combination with the MultiServicerXD instrument and the CE Adapter. A number of optional accessories will be used along with the instrument and adapter. The purpose is to show the entire solution of the test flow, from entering the ID number with barcode scanner, performing passive tests including multiple point testing. Continuing with high voltage testing, and active (Leaks&Power) testing at the end. A number of optional accessories will also be included in the test process:

- signal lights
- bar code reader
- printer
- tip commander/pedal

Note!

In certain tests, the measuring instrument checks "in the pre-test" whether the tested device connected to the instrument test terminals meets certain pre-set criteria.

If the connected device does not meet the criteria set in the measuring instrument, a warning message appears on the instrument screen.

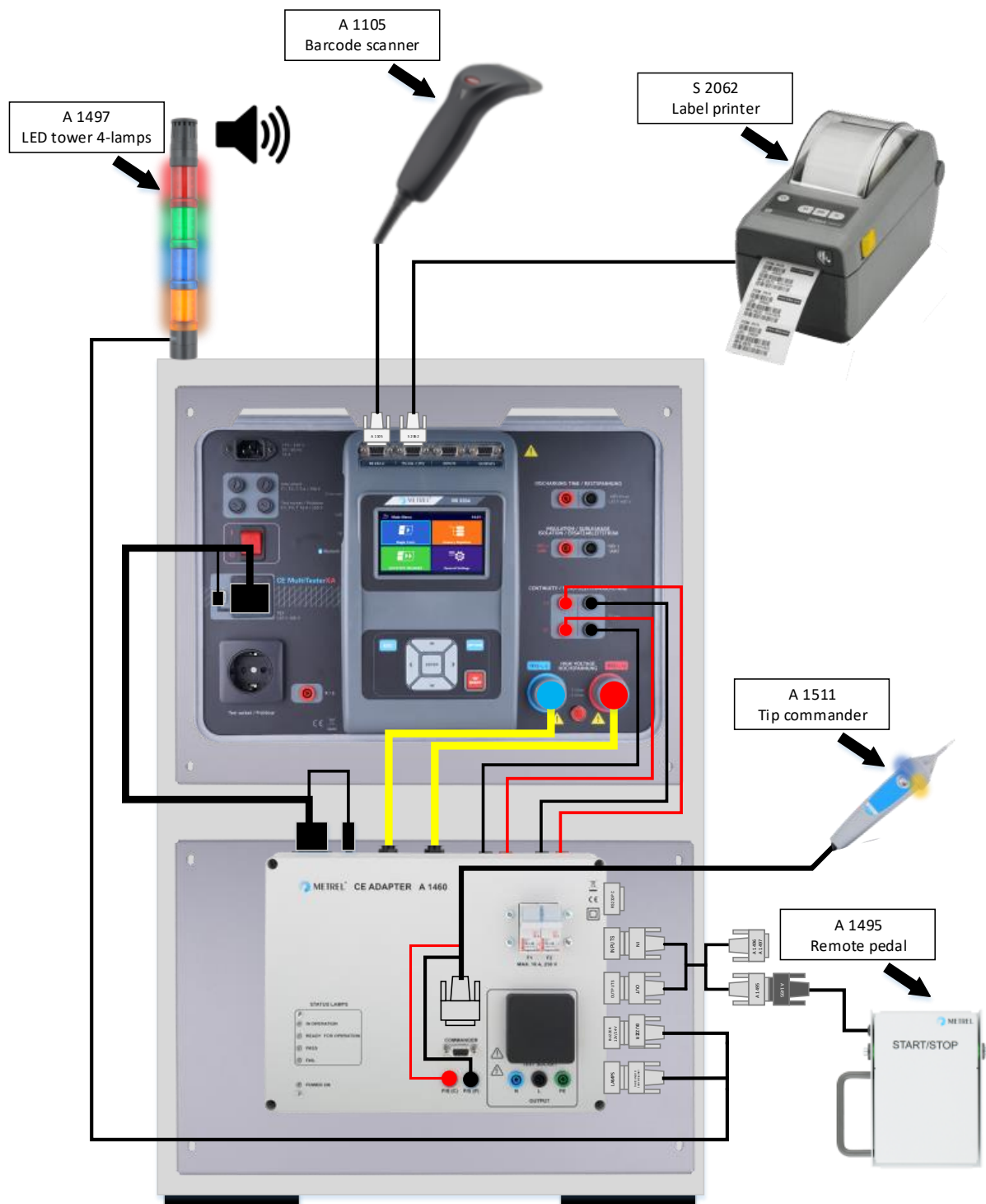
These warning messages can indicate the user different statuses:


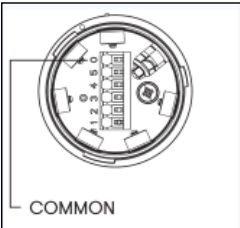
- whether the tested device (ON / OFF) switch must be turned on,
- whether the device connected to the test socket is faulty, etc...

Using Flow command "NO NOTIFICATION mode" these warning messages can be automatically skipped.


In the following steps it will be shown:

- How to connect and enable Barcode scanner, using flow command
 - o APPLIANCE INFO
- How to connect and enable remote control with A 1511 or/and A 1495, using flow command
 - o >EXTERNAL OK KEY mode<
- How to connect and enable HV + PASS/FAIL lamps + Buzzer (A 1497), using flow commands
 - o LAMPS HV mode
 - o LAMPS passFail mode
 - o BUZZER mode
- Execution of 4-W Earth continuity test (EB) >sequence of 3-test steps<
- How to disable notifications, using flow command
 - o NO NOTIFICATION mode
- Execution of Insulation resistance test (Riso)
- Execution of High voltage test (HV)
- Execution of Leaks & Power test
- How to enable auto save, using command
 - o Auto save
- How to connect and enable barcode printer, using command
 - o Auto print

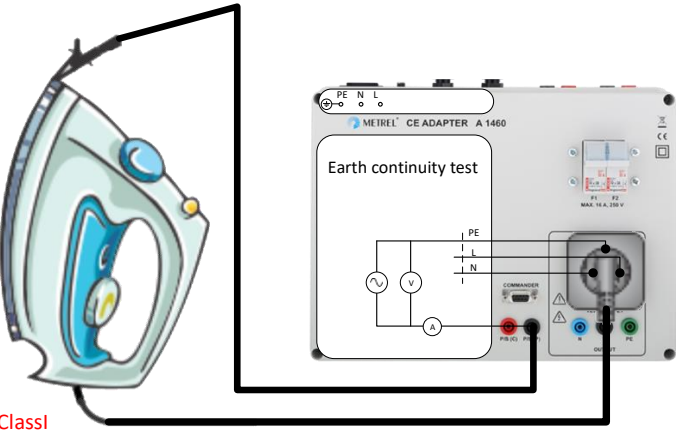




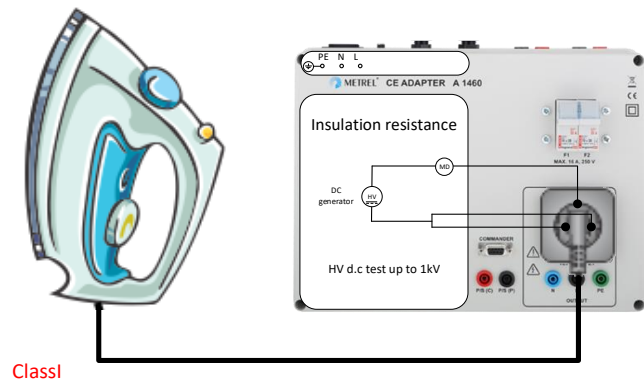
LED TOWER (PIN CONNECTOR)	RS232 CABLE
GND (0)	Gray / Grau
Buzzer (5)	Green / Grün
Red LED (4)	Pink / Rosa
Green LED (3)	Yellow / Gelb
Blue LED (2)	Brown / Braun
Orange LED (1)	White / Weiß



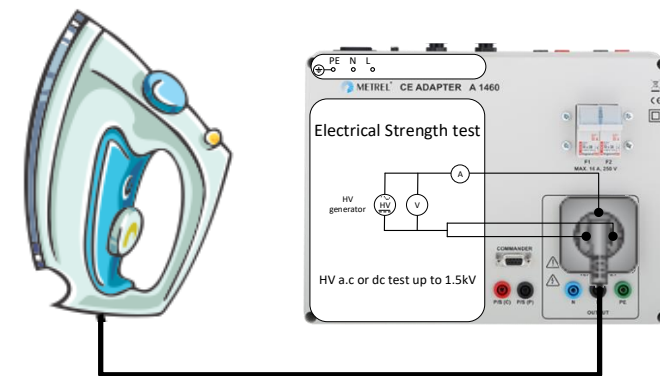
How testing is performed via CE ADAPTER



Earth continuity test

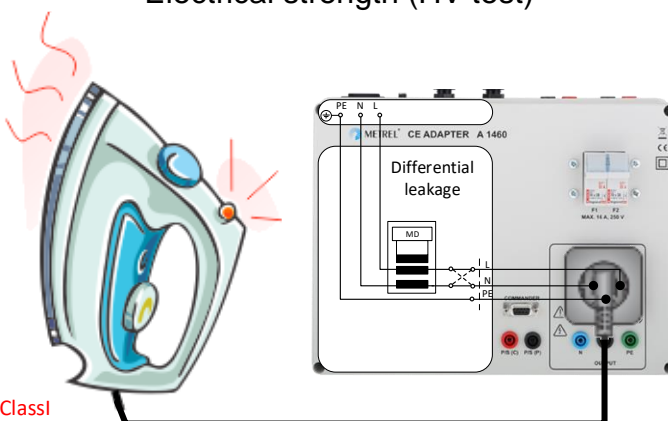


Insulation resistance test



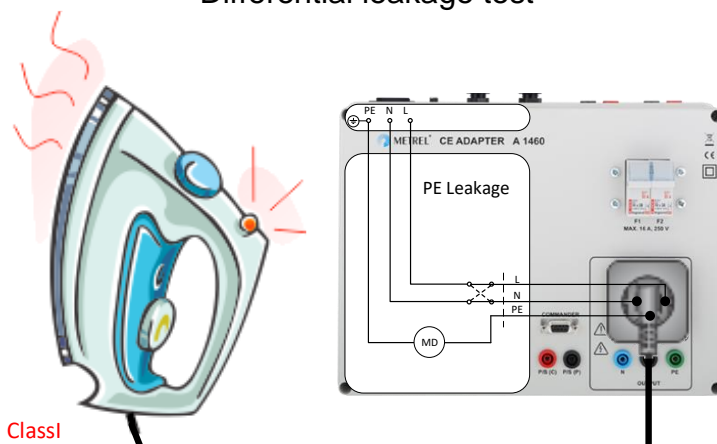
Class I

Electrical strength (HV test)



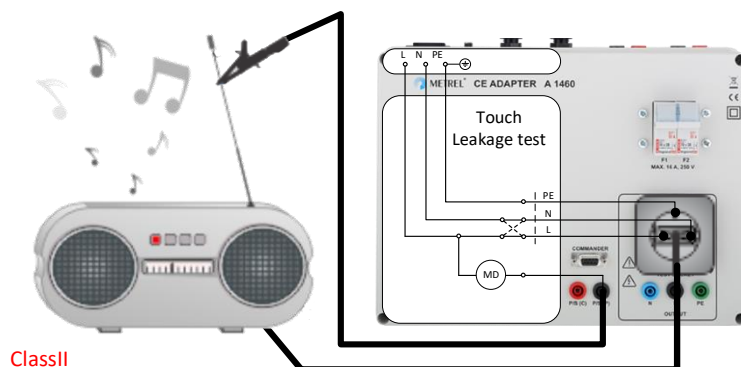
Class I

Differential leakage test



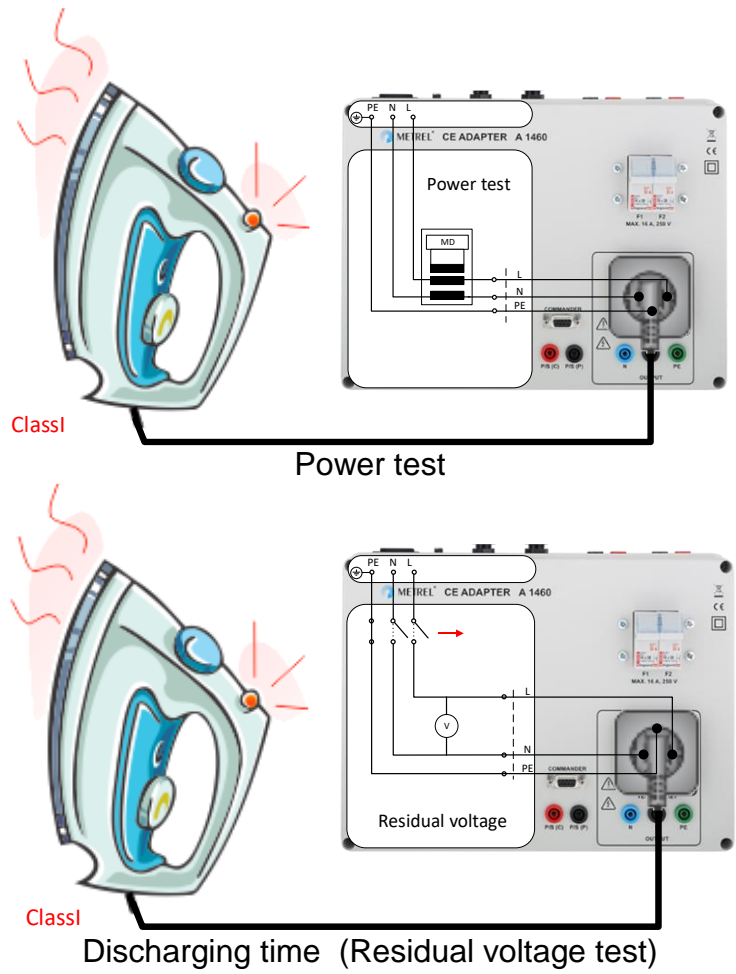
Class I

PE leakage test



Class II

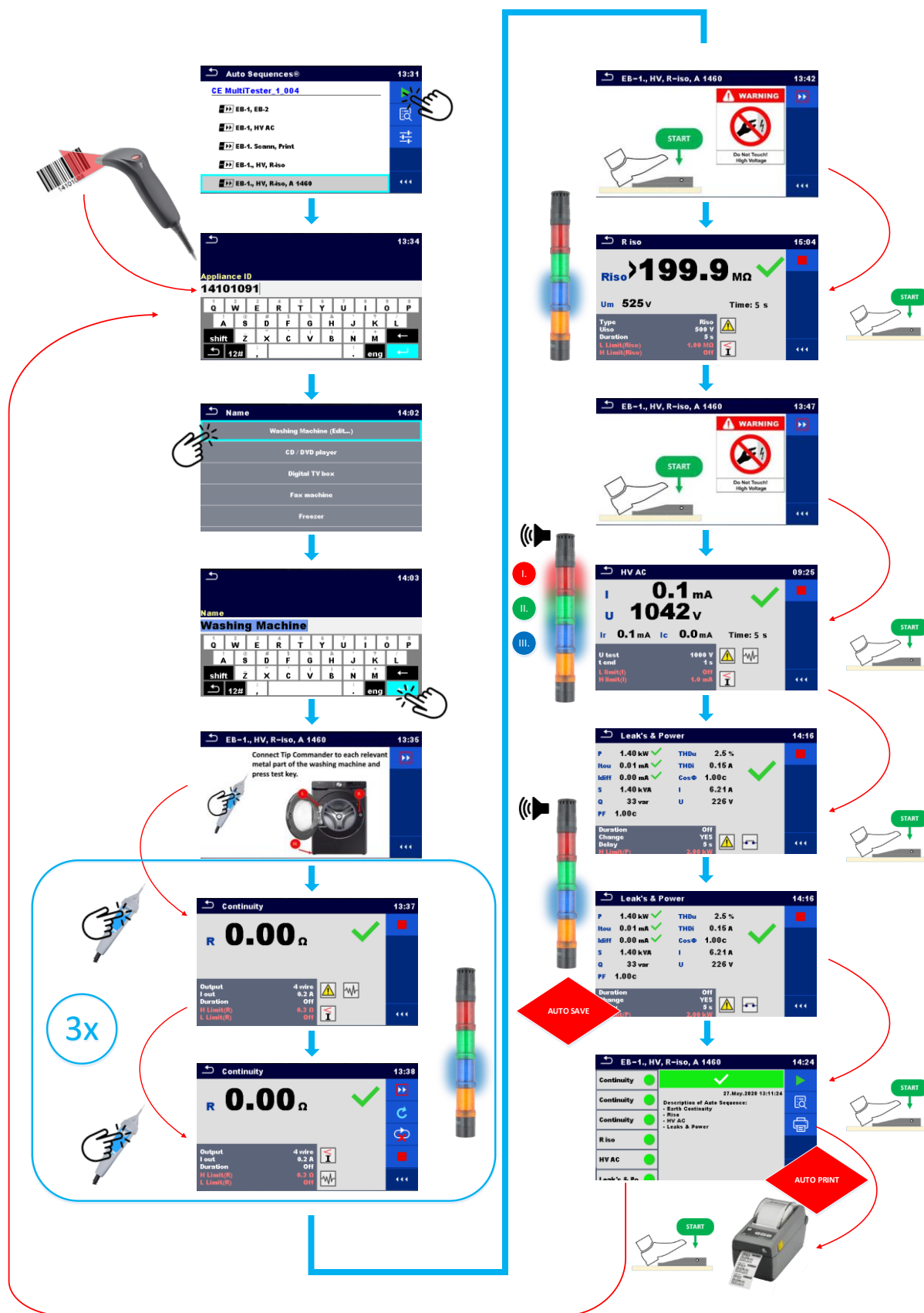
Touch leakage test



Header	EXTERNAL OK KEY mode	
	LAMPS PassFail mode	
	PAUSE	
Continuity	SINGLE TEST	⚙
	OPERATION AFTER END OF TEST	
R iso	PAUSE	⚙
	NO NOTIFICATION mode	
	SINGLE TEST	
	OPERATION AFTER END OF TEST	
HV AC	BUZZER mode	⚙
	LAMPS HV mode	
	PAUSE	
	SINGLE TEST	
	OPERATION AFTER END OF TEST	
Leak's & Power	SINGLE TEST	⚙
	OPERATION AFTER END OF TEST	
Result	RESULT SCREEN	

<div>Header</div> <div>APPLIANCE INFO</div> <div>EXTERNAL OK KEY mode</div> <div>LAMPS PassFail mode</div> <div>PAUSE</div>	<div>Command properties</div> <div>Repeat Setting Repeat</div> <div>Appliance type Appliance_FD</div> <div>Default Appliance ID</div> <div>Appliance name Washing Machine Editable</div> <div>Retest per. (M) 12 Editable</div> <div>OK</div> <div>Cancel</div>															
<div>Header</div> <div>APPLIANCE INFO</div> <div>EXTERNAL OK KEY mode</div> <div>LAMPS PassFail mode</div> <div>PAUSE</div>	<div>Command properties</div> <div>State On</div> <div>OK</div> <div>Cancel</div>															
<div>Header</div> <div>APPLIANCE INFO</div> <div>EXTERNAL OK KEY mode</div> <div>LAMPS PassFail mode</div> <div>PAUSE</div>	<div>Command properties</div> <div>State On</div> <div>OK</div> <div>Cancel</div>															
<div>Header</div> <div>APPLIANCE INFO</div> <div>EXTERNAL OK KEY mode</div> <div>LAMPS PassFail mode</div> <div>PAUSE</div>	<div>Command properties</div> <div>Pause type Show picture</div> <div>Duration Infinite</div> <div>Image path EB test.png</div> <div>OK</div> <div>Cancel</div>															
<div>Continuity</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div>	<div>Continuity</div> <div>Overall Status: Empty</div> <table><thead><tr><th>Results</th><th>Value</th><th>Status</th></tr></thead><tbody><tr><td>R</td><td></td><td></td></tr><tr><td>L</td><td></td><td></td></tr><tr><td>R Line</td><td>0.0</td><td></td></tr><tr><td>L Line</td><td>OFF</td><td></td></tr></tbody></table> <div>Parameters</div> <div>Output 4 wire</div> <div>Test 0.2</div> <div>Wire cross section</div> <div>Duration OFF</div> <div>Connect 1</div> <div>Connect 2</div> <div>Compensation OFF</div> <div>OK</div> <div>Cancel</div>	Results	Value	Status	R			L			R Line	0.0		L Line	OFF	
Results	Value	Status														
R																
L																
R Line	0.0															
L Line	OFF															
<div>Continuity</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div>	<div>Step count</div> <div>3</div> <div>OK</div> <div>Cancel</div>															
<div>Continuity</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div>	<div>Command properties</div> <div>Operation after end of test - pass Manual</div> <div>Operation after end of test - fail Manual</div> <div>Operation after end of test - no status Manual</div> <div>OK</div> <div>Cancel</div>															
<div>R iso</div> <div>PAUSE</div> <div>NO NOTIFICATION mode</div> <div>SINGLE TEST</div> <div>OPERATION AFTER END OF TEST</div>	<div>Command properties</div> <div>Pause type Show picture</div> <div>Duration Infinite</div> <div>Image path HV test.png</div> <div>OK</div> <div>Cancel</div>															

<div><div>HV AC</div><div>BUZZER mode</div><div>LAMPS HV mode</div><div>PAUSE</div><div>SINGLE TEST</div><div>OPERATION AFTER END OF TEST</div></div>	<div><div>Command properties</div><div>Operation after end of test - pass Auto</div><div>Operation after end of test - fail Manual</div><div>Operation after end of test - no status Manual</div><div>OK</div><div>Cancel</div></div>
<div><div>Leak's & Power</div><div>SINGLE TEST</div><div>OPERATION AFTER END OF TEST</div></div>	<div><div>Command properties</div><div>Operation after end of test - pass Auto</div><div>Operation after end of test - fail Manual</div><div>Operation after end of test - no status Manual</div><div>OK</div><div>Cancel</div></div>
<div><div>Leak's & Power</div><div>SINGLE TEST</div><div>OPERATION AFTER END OF TEST</div></div>	<div><div>Command properties</div><div>Operation after end of test - pass Auto</div><div>Operation after end of test - fail Manual</div><div>Operation after end of test - no status Manual</div><div>OK</div><div>Cancel</div></div>
<div><div>Result</div><div>RESULT SCREEN</div></div>	<div><div>Command properties</div><div>Print and save</div><div>Auto save</div><div>Auto print</div><div>OK</div><div>Cancel</div></div>



6. Demo test sequence

Demo test sequences are available from the following link.

https://www.metrel.si/assets/Metrel/PS_SW_dokumentacija/Autosequence/MetrelAutoSeq_MI_3394.zip

Hersteller:



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