HIOKI

9267

Instruction Manual

SAFETY TEST DATA MANAGEMENT SOFTWARE

Check for the latest edition and other language versions.

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Introduction

Thank you for purchasing the HIOKI "Model 9267 SAFETY TEST DATA MANAGEMENT SOFTWARE." To obtain maximum performance from the product, please read this manual first, and keep it handy for future reference.

Safety Notes

This manual contains information and warnings essential for safe operation of the product and for maintaining it in safe operating condition. Before using it, be sure to carefully read the following safety precautions.

Safety symbols

In the manual, the ⚠ symbol indicates particularly important information that the user should read before using the product.

The following symbols in this manual indicate the relative importance of cautions and warnings.

⚠ CAUTION Indicates that incorrect operation presents a possibility of injury to the user or damage to the product.

NOTE Indicates advisory items related to performance or correct operation of the product.

Notation

- Unless otherwise specified,“Windows”represents Windows 10,Windows 11.
- Dialogue box represents a Windows dialog box.
- Menus, commands, dialogs, buttons in a dialog, and other names on the screen and the keys are indicated in brackets.

Mouse Operation

Click	Press and quickly release the left button of the mouse.
Right-click	Press and quickly release the right button of the mouse.
Double click	Quickly click the left button of the mouse twice.
Drag	While holding down the left button of the mouse, move the mouse and then release the left button to deposit the chosen item in the desired position.
Activate	Click on a window on the screen to activate that window.

Notes on Use

In order to ensure safe operation and to obtain maximum performance from the unit, observe the cautions listed below.

⚠ CAUTION

- To avoid damage, do not disconnect the communications cable while the instrument is sending or receiving data.
- Use a common ground for both the instrument and the computer. Grounding them to different ground points will result in a potential difference between the instrument's ground and the computer's ground. If the communications cable is connected while such a potential difference exists, it may result in equipment malfunction or failure.
- Before connecting or disconnecting any communications cable, always turn off the instrument and the computer. Failure to do so could result in equipment malfunction or damage.
- After connecting the communications cable, tighten the screws on the connector securely. Failure to secure the connector could result in equipment malfunction or damage.

Chapter 1
Setup

1.1 Operating environment

Before installing the software in your personal computer, be sure to check the operating environment of the PC.

❑ Operating environment

The personal computer in which this software is installed must have the operating environment described below

- OS:Windows 10 (32/64-bit) and Windows 11
- Free hard-disk capacity (at the time of software installation): 4 MB or more
- Display: 800 x 600 dots or higher
- Mouse or other appropriate pointing device
- Serial ports or USB to serial port convertor

1.2 Installation

Before executing the setup program for software installation, shut down all currently running applications.
Be sure to close any anti-virus software. If anti-virus software is running, it may prevent installation. Make sure the user permission is set to allow software installation. Note that the software may not operate properly in some operating environments.

NOTE Before upgrading to a newer version, be sure to uninstall the previous version.

❑ Installing the software

1. Execute SETUP.EXE by double-clicking on it.

2. When the installation program of the SAFETY TEST DATA MANAGEMENT SOFTWARE starts up, follow the directions displayed on the screen.

3. The setup dialog box appears. In this box, the installation destination can be changed using the **[Change Directory]** button (default installation directory: C:\Program Files\SAFETY TEST DATA MANAGEMENT SOFTWARE) or C:\Program Files (x86)\SAFETY TEST DATA MANAGEMENT SOFTWARE)

4. When the large PC illustration is clicked on, installation starts.

5. When installation is completed successfully, SAFETY TEST DATA MANAGEMENT SOFTWARE is registered under **[HIOKI]** in the Windows Start menu. To start up the program, locate and select [**SAFETY TEST DATA MANAGEMENT SOFTWARE**].

NOTE This application is produced using Microsoft VisualBasic 6.0. During installation, a number of Windows shared files are copied. During this process, an error message may be displayed. The message box includes several buttons. Click on the Skip button to skip the copying process for the file that caused the error message and continue the installation operation. An error message is displayed in the following cases:

- When a shared file to be copied already exists in the PC and is being used by another application running at the time of installation
- When Windows is using the shared file to be copied and the VisualBasic installation program protects the application operation

1.3 Uninstallation

Follow the procedure specified below to uninstall 9267 SAFETY TEST DATA MANAGEMENT SOFTWARE.

❑ Uninstalling the software

1. Select **[Sart]- [Settings] - [APP and Features].**
2. Select **[SAFETY TEST DATA MANAGEMENT SOFTWARE]** in the displayed list, and click on **[uninstall]** to uninstall the software.

Chapter 2
Specifications

(1) General

Accessory	Instruction manual

(2) Operating environment

Main unit	PC/AT compatible
OS	Windows 10(32/64bit), Windows 11
Display	800 X 600 dots or more
Hard disk	Free capacity: 4 MB or more

(3) Function specifications

Types of test	Insulation/withstand-voltage test, protective grounding test, actual operation test, and leakage current test
Applicable models	3174, 3153, 3159 (Insulation/withstand-voltage test) 3154 ,ST5520*(Insulation test) *Exist functional restriction ST5540, ST5541, 3156 (Leakage current test) 3158 (Withstand-voltage test) 3157 (Protective grounding test) 3332, 3333, 3334 (Actual operation test) PLC (for connection switching)
Interface	RS-232C
Data recording	Test results (measurements) saved in a text file (CSV format)
Test-result display	Indication of "Pass" or "Fail" following test Display of test-result list and detailed test results also possible
Tester setting	Setting of individual testers possible With 3153, program-function setting also possible
ID function	Input of ID for test sample possible Test results recorded with ID designation
Connection-switching function	Command transmitted to the PLC prior to each test for connection switching

Chapter 3
Before Using the Software

3.1 Outline of the Product

This software performs electrical-equipment safety tests such as withstand-voltage tests, insulation tests, protective grounding tests, and leakage current test, and also saves measurements in a text file. The software sets the test conditions and controls the testing operations of testers connected to the PC via RS-232C.

3.2 Test Details and Compatible Testers

The following shows the tests that can be conducted using the software and compatible testers. Note that testers not listed below cannot be used.

Insulation/ withstand-voltage test	3174, 3153, 3159, 3158 (withstand-voltage test only) (To be selected from the above four models)
Insulation test	3154,ST5520*Exist functional restriction
Leakage current test	ST5540, ST5541, 3156
Protective grounding test	3157
Actual operation test	3332, 3333, 3334

3.3 Serial-Port Check

This software uses the RS-232C interface for the connection of testers. Each tester requires a serial port (RS-232C interface connection line). Therefore, there must be as many serial ports as testers to be connected. If the number of serial ports is insufficient, use a commercially available serial interface or a USB-serial converter.

3.4 Tester Connection and Communication-Function Settings

Set the interface of each tester for RS-232C connection.
The main test settings can be made using the software. However, detailed settings must be made manually in advance. When using the 3174, 3153, 3159, and/or 3158, set each tester so as to allow command start using the Option-setting dialog box. For details, refer to the instruction manual of each tester.

Set the communication speeds specified below for the testers. If these settings are not made, a communication failure will result.

3174	9600 bps
3153	9600 bps
3154,ST5520	9600 bps
3156	9600 bps
3159	9600 bps
3158	9600 bps
3157	9600 bps
3332, 3333, 3334	9600 bps
ST5540, ST5541	9600 bps/USB

After making the communication settings for the testers, connect the testers to the PC's serial ports (COM ports) using crossing cables. Use only crossing cables for the connection of testers to the PC. Use of any other type of cable will prevent communication. For details, refer to the instruction manual of each tester.

NOTE After the software starts up, the serial (COM) ports must be set according to the tester type. Be sure to note the serial (COM)-port number of each tester.

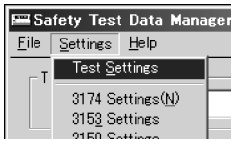
Chapter 4
Initial Settings (Settings to Be Made Prior to Operation)

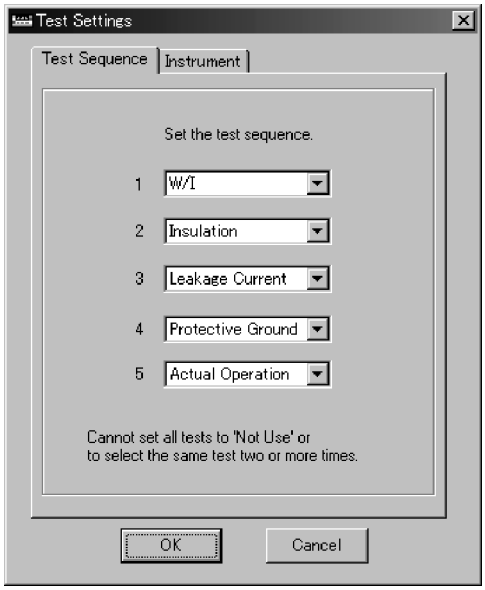
4.1 Test-Sequence Settings and Tester Selection

After the software starts up, make the settings specified below.

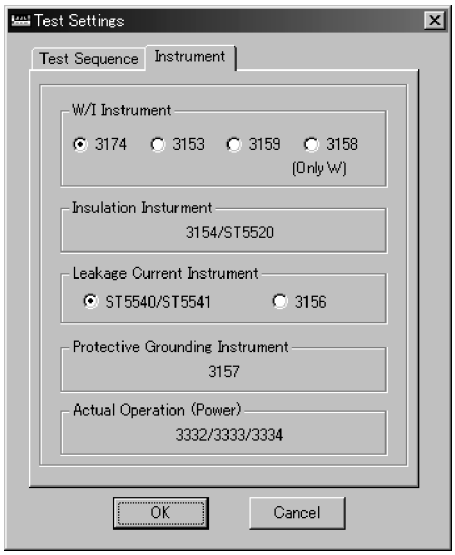
Test sequence and tester selection
Set the test types, test sequence, and testers to be used.

Select Settings from the menu bar, and select [**Settings**]-[**Test Settings**] menu to display the dialog box.





Select test items in order of execution in the test-sequence dialog box. Tests can be set in any sequence, but it is not possible to set all tests to "Not use" or to select the same test two or more times.

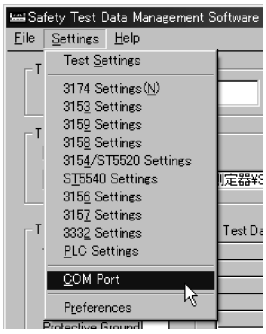


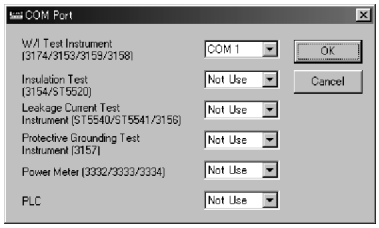
Select the tester to be used for the insulation withstand-voltage test in the tester dialog box. Note that the test cannot be conducted if the selected tester model does not correspond to the connected tester.

4.2 Serial-Port Settings

Set the serial (COM) port for each connected tester. If settings are not made correctly, a communication failure will result.

Select Settings from the menu bar, and then select [**Settings**]-[**COM Port**] menu to display the dialog box.





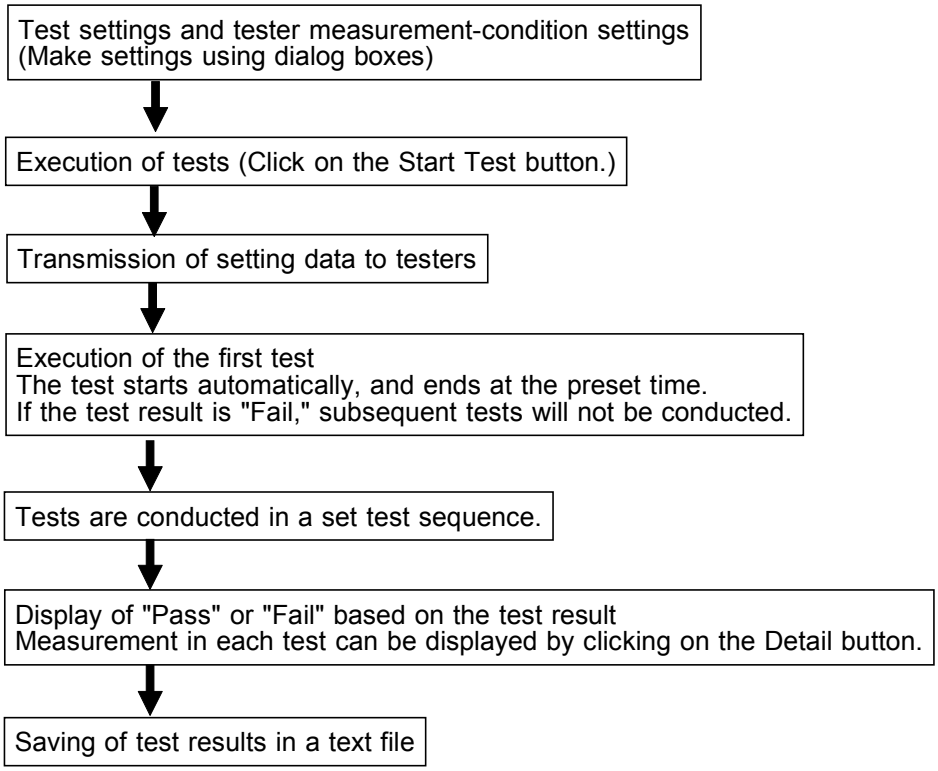
Set the serial (COM) port for each tester.

NOTE The serial-port list displays connectable COM ports only.

Chapter 5
Execution of Safety Tests (General Flowchart)

5.1 Safety-Test Flowchart

This software performs safety tests and displays the test results. It also saves the measurement data in a text file. The test flow is shown below.



5.2 Before Conducting Tests

1. Make sure each tester is properly connected to the PC with the RS-232C crossing cable.

2. Check the COM-port setting dialog box to confirm that the COM ports and connected testers correspond. For details, refer to "4.2 Serial-Port Settings."

3. Make sure the probe of each tester is properly connected to a test sample.

4. In the 3158 and 3159, make sure the voltage dial is set to the desired output voltage.

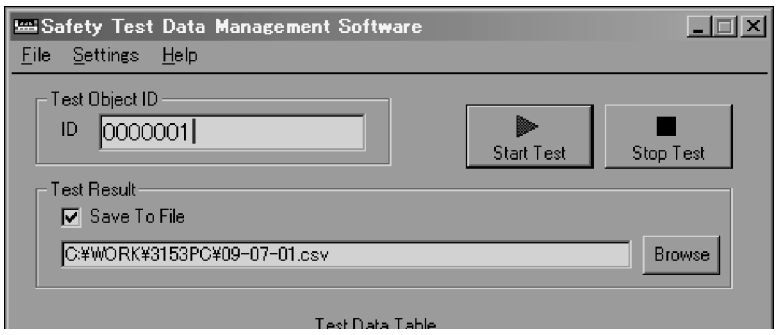
5. When a PLC is used for connection switching, be sure to conduct a pretest operation under safe conditions before performing an actual test, in order to ensure proper operation* of the PLC.

*: Confirm that commands are transmitted properly and that switching is performed according to the settings.

6. Make sure the PLC's serial port is properly connected. Regarding connection switching using a PLC, refer to "(5) Connection-switching function" in "Chapter 6 Using the Functions."

7. Make sure the ID is properly set correctly in the software window.

8. Check the name of the file in which data is to be saved.
   If it is not necessary to save data, remove the check mark from the box.



5.3 Starting Tests

1. Click on the [**Start Test**] button.

2. A confirmation message appears on the screen.

3. Click on [**OK**] to start the tests. When the set test time elapses, tests end.

4. Measurements are displayed in the measurement display section.

   When a test result deviates from the standard-value range, a "Fail" indication is displayed and the test stops. Subsequent tests will not be performed. When a test result is within the standard-value range, the testing operation continues.

5. Tests are conducted until all selected tests are performed.

   To stop the test, click on the [**Stop Test**] button. When a test is interrupted in this manner, the software does not evaluate the test result for judgement display or save the result in a file.

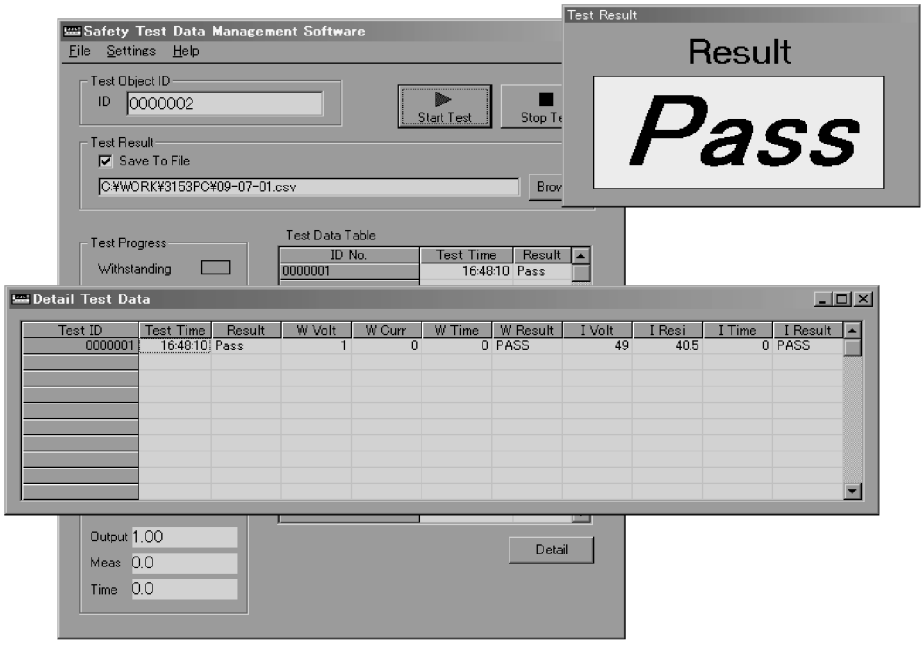
NOTE

- The commencement of each test is controlled by the PC. Note that the software does not support manual start or stop (using the start button or the remote start switch of units). The Option dialog boxes of the 3174, 3153, 3159, and 3158 have a setting item to enable and disable command start. Use this setting to enable command start for each tester. If this setting is not made, the testers cannot be started by the PC, and an error will occur. For details, refer to the instruction manual of each tester.
- When the set test time has elapsed, the tests stop. In normal use, set the test-time setting to ON. If the test-time setting is set to OFF, tests will not stop until the Abort Test button is clicked on or the [**Stop Test**] button on the main unit is pressed. When either of these actions is taken, the software detects test abortion; therefore, it will not evaluate the test result for judgement display or save the result in a file.

5.4 Test-Result Display and Data File

Upon completion of all tests, the software evaluates their results and displays "Pass" or "Fail" as an overall judgement result.

The "Pass" indication is displayed only when all test results are within the standard-value range. The test results are added to the test-result list together with the test ID and displayed. The measurement in each test can be displayed by clicking on the [**Detail**] button.



When the box for saving test results in a file contains a check mark, the test results are output to the specified file in text format. As this file is in text format (CSV format), it can be opened using a spreadsheet application such as Excel.

NOTE

The test-result list and detailed test-result table show a maximum of 25 test results (or five when testing leakage current), starting with the most recent. The results of tests conducted prior to that cannot be displayed. All test results are saved in text files.

5.5 File Format

Saved test results are written in CSV format (comma-separated text values). The writing sequence is the same as that displayed in the detailed test-result table.

The first line begins with the test item names, followed by the test results. The results of each test cycle (all tests applied to each tested unit) are written on a single line, or on five lines when testing leakage current.

Except when testing leakage current, all test results are written on a single line.
The ID, test date, test time, test results (overall), conditions of each test, measured values, measurement time, upper-limit and lower-limit are followed by the test results.

The second through fifth lines contain leakage current test results. If leakage current testing is not performed, these lines are not present, and the results of the next test are written instead.
The second line consists of the test conditions for the leakage current test, the third line contains the judgment values, the fourth line contains the measured values and the fifth line contains the judgment results, with the results of all steps listed in sequence horizontally.
For leakage current test conditions, the following series is written as a single character string, separated by colons.
Step Number:Network:Measurement Mode:Test Condition:Test Condition2:SW Settings:Polarity:Filter:Measurement Current (ST5540/ST5541)
Step Number:Network:Measurement Mode:Test Condition:Polarity:Filter:Measurement Current (3156)

Recording File Example

Test ID,Test Date,Test Time,Result,W Volt [kV],W Curr [mA],W Time [s],Upper[mA],Lower[mA],W Result,I Volt [V],...

0000021,2002/11/11,15:41:00,Pass,0.2,0,0.3,10,-,PASS,487,10000,0.3,-,500,PASS

0000021,Leak Test Condition, 1:A:Encl-Line:ApplyL:----:ON:ACDC, 2:A:Earth:...

0000021,Leak Allowable [A],+10.000E-03,+10.000E-03

0000021,Leak Max [A],+11.11E-06,+11.50E-06

0000021,Leak Judge,PASS,PASS

0000022,2002/11/11,15:46:20,Pass,0.2,0,0.3,10,-,PASS,490,10000,0.3,-,500,PASS

0000022,Leak Test Condition, 1:A:Encl-Line:ApplyL:----:ON:ACDC, 2:A:Earth:...

0000022,Leak Allowable [A],+10.000E-03,+10.000E-03

0000022,Leak Max [A],+11.58E-06,+10.87E-06

0000022,Leak Judge,PASS,PASS

Measurement Units

The units of measurement for recorded values are as follows.

Test	Models	Measurement Items	Units
Withstand-voltage test	3174 3153 3158 3159	Output Voltage	kV
		Withstand Current Test Result	mA
Insulation test	3153 3159 3154 ST5520	Output Voltage	V
		Insulation Resistance Test Result	MΩ
Protective grounding test	3157	Output Current	A
		Protective Grounding Resistance Test Result	Ω
Leakage current test	ST5540 ST5541 3156	Allowable Value	A
		Leakage Test Results	A
Actual operation test	3332 3333 3334	Current	A
		Voltage	V
		Effective Power	W

* The unit of measurement time is always "s" (seconds).

The following values have special significance when written as measurement values.

Test	Models	Measurement Items	Measurement Value	Meaning
Insulation test	3153	Insulation Resistance Test Result	10000	O.F.
			0	U.F.
	3174 3159 3154 ST5520	Insulation Resistance Test Result	9999	O.F.
			0	U.F.
Protective grounding test	3157	Protective Grounding Resistance Test Result	9999	O.F.
Leakage current test	ST5540 ST5541 3156	Leakage Test Results	9.999E+10	Invalid data
			9.999E+9	O.F.
			-9.999E+9	-O.F.
Actual operation test	3332 3333 3334	Voltage, Current, and Effective Power	999.99E+9	O.F.
			-999.99E+9	-O.F.

* O.F.: Overflow (indicates the measured value is above the measurement range)
  U.F.: Underflow (indicates the measured value is below the measurement range)
  Refer to the operating manual of the particular instrument for its measurement range.

Chapter 6
Using the Functions

(1) Test-sequence setting and tester selection

Used to set test types, test sequences, and testers to be used.

Select Settings from the menu bar, and then select [**Settings**]-[**Test Settings**] menu to display the dialog box.
For details, refer to "4.1 Test-Sequence Settings and Tester Selection."

(2) Serial-port settings

Used to set the serial (COM) port for each connected tester. If settings are not made correctly, a communication failure will result. To display this dialog box, select Settings from the menu bar, and then select [**Settings**]-[**COM port**] menu. For details, refer to "4.2 Serial-Port Settings."

(3) Tester settings

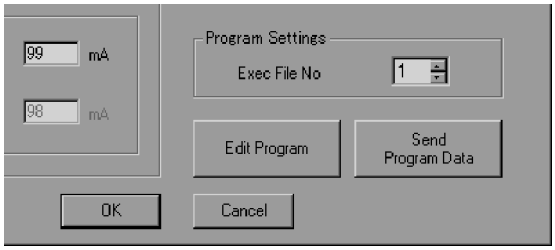
Used to set measurement conditions for each tester.

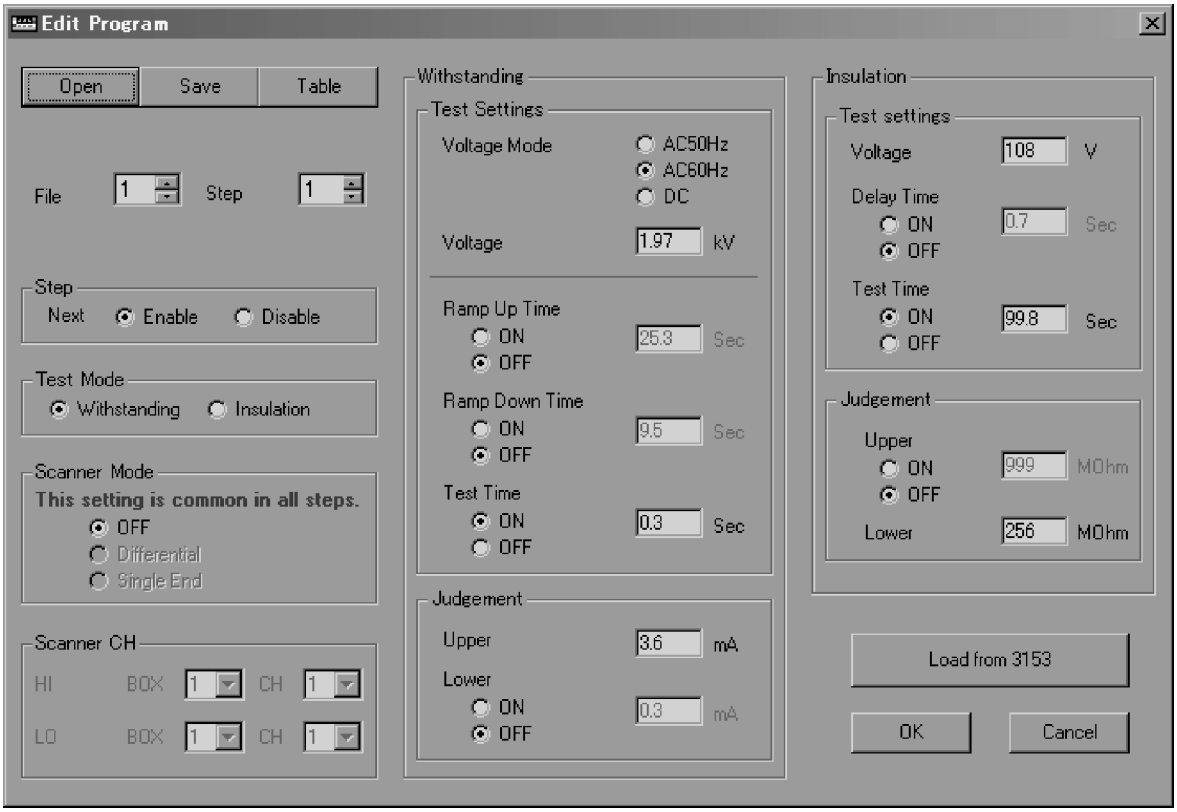
3174	[**Settings**]-[**3174 Settings**]
3153	[**Settings**]-[**3153 Settings**]
3154,ST5520	[**Settings**]-[**3154/ST5520Settings**]
3156	[**Settings**]-[**3156 Settings**]
3159	[**Settings**]-[**3159 Settings**]
3158	[**Settings**]-[**3158 Settings**]
3157	[**Settings**]-[**3157 Settings**]
3332	[**Settings**]-[**3332 Settings**]
ST5540 ST5541	[**Settings**]-[**ST5540 Settings**]

When a PLC (programmable logic controller) is used to control connection switching, make settings to enable the use of a PLC. Regarding connection switching using a PLC, refer to "(5) Connection-switching function" in "Chapter 6 Using the Functions." Select the [**Settings**]-[**PLC Settings**] menu, the wait insertion time, and the communication settings.

(4) 3153 program editing and transmission

The 3153 is equipped with a program function, and this software allows easy program setting. Select Settings from the menu bar, and then select [**Settings**]-[**3153 Settings**] menu. To display the program editing dialog box, click on the [**Edit Program**] button.





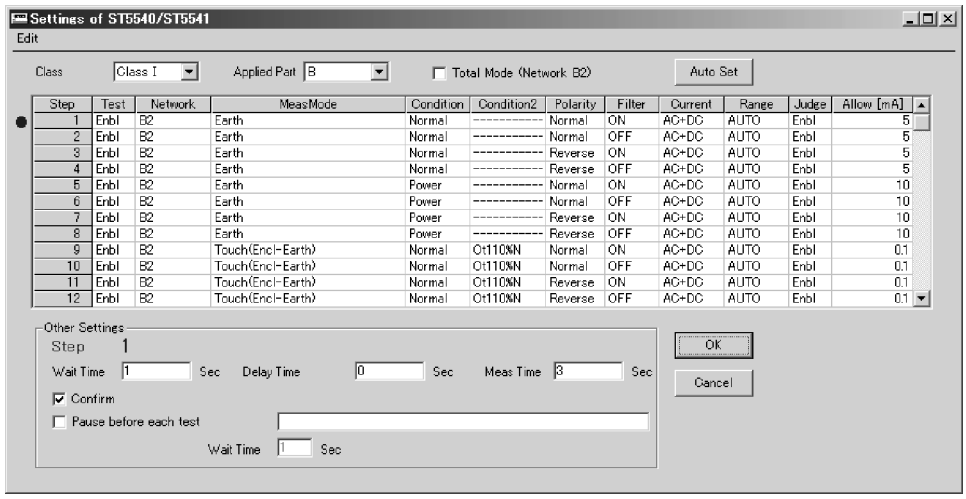
This dialog box allows steps to be set for each file.

NOTE

- Setting changes are entered when the file number or step number is changed. Setting changes are not finalized until the [**OK**] button is clicked on and the editing dialog box is closed. When the [**Cancel**] button is clicked on, editing operations are canceled and the set values remain unchanged.
- To display the list of program settings, click on the [**Table**] button. The value of each setting can be changed by double-clicking on the applicable item.
- Program settings can be saved in a text tile by clicking on the [**Save**] button. Setting data is saved in the CSV format, so it can be opened using Excel and other applications. By clicking on the [**Open**] button, program-setting data can be transferred from a saved text file containing program-setting data.
- After completing the program setting, click on [**OK**] in the editing dialog box to close the dialog box. The program-setting data must be transmitted to the 3153 unit prior to use. To do so, click on the [**Send Program Data**] button in the 3153 setting dialog box to transfer the data to the 3153 unit.

(5) Leakage current test settings

Model ST5540/ST5541/3156 provides the capability for various leakage current tests.
The [**Settings**]-[**ST5540 Settings**] (or, [**3156 Settings**]) menu displays Settings screen.
Test settings are made for each step. Test conditions, allowable value, measurement time and pre-test connection switching by PLC can be set for each step. A test setting can be changed by double clicking the corresponding cell. Up to 500 steps can be set up, with testing performed in order from Step 1 (only those test steps that are set as enabled are performed).
Steps can be copied, deleted and pasted using the [**Edit**] menu, so test steps can be deleted and their order changed.

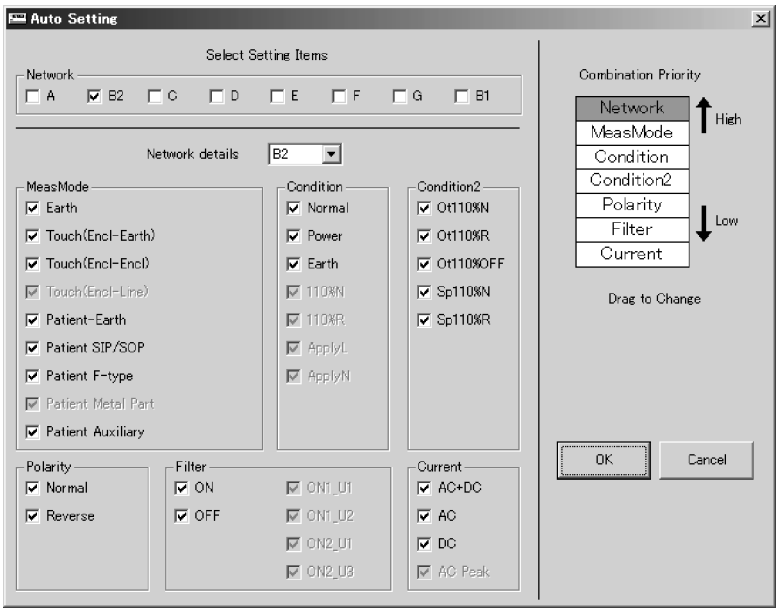


NOTE

- Multiple commands can be sent to the PLC by inserting double slashes ("//") as separators.
  Example: AAAAA//BBBBB
  Send command BBBBB followed by AAAAA.
  Commands separated by "//" are sent at intervals of approximately 250 ms.
- Test condition settings can be selected only in combinations that are allowed by the test instrument. When changing test settings, if a setting is disallowed by other settings made for that step, it is automatically reset to an allowed setting.
- If you have changed the grounding class or applied part, as described above, it will be automatically reset to an allowed setting.

(6) Leakage current test Auto Setting

Click [**Auto Setting**] on the test settings screen to display the auto setting screen for leakage current testing.



Select the network to test, test contents and conditions beforehand. Then click [**OK**] to automatically select all executable test combinations from the items selected beforehand, and create the corresponding test steps.
Also, by specifying the priority of combinations beforehand, you can change their order of selection.

NOTE

- On the auto settings screen of the ST5540/ST5541, only the selectable item for each network can be checked.
- The available setting items are common for all networks. (Items cannot be selected individually for each network.)
- Although the setting item name on each measurement mode may differ depending on the network, during auto settings, similar test items will be identified as the same.

(7) Precautions for Leakage Current Testing

When performing leakage current testing and when switching power polarity, the power supply is briefly interrupted. In this case, depending on the device under test, the power may be cut off and problems could result.
To minimize such problems, we suggest making test settings as follows:

- Within the same measurement mode, perform forward- and reverse-phase tests in sequence so that polarity is switched only once (in the priority of combinations for automatic test setting, set the priority of polarity to follow that of the measurement mode).
- Perform the last test step in the power-off state.

Examples

Network	Measurement Mode	Condition	Polarity	Filter
B	Between enclosure and earth	Normal	Normal	OFF
B	Between enclosure and earth	Normal	Normal	ON
B	Between enclosure and earth	Disconnection of protective earth conductor	Normal	OFF
B	Between enclosure and earth	Disconnection of one wire in power line	Normal	OFF
B	Between enclosure and earth	Normal	Reverse	OFF
B	Between enclosure and earth	Normal	Reverse	ON
B	Between enclosure and earth	Disconnection of protective earth conductor	Reverse	OFF
B	Between enclosure and earth	Disconnection of one wire in power line	Reverse	OFF
B	Patient leakage current I	Normal	Normal	OFF
B	Patient leakage current I	Normal	Normal	ON
B	Patient leakage current I	Disconnection of protective earth conductor	Normal	OFF
B	Patient leakage current I	Disconnection of one wire in power line	Normal	OFF
B	Patient leakage current I	Normal	Reverse	OFF
B	Patient leakage current I	Normal	Reverse	ON
B	Patient leakage current I	Disconnection of protective earth conductor	Reverse	OFF
B	Patient leakage current I	Disconnection of one wire in power line	Reverse	OFF

Non-compliant functions of the ST5540/ST5541

The functions below are not supported in this software:

- Frequency setting range: 0.1Hz
- Lower limit setting for the tolerance
- Free current measurement
- Measurement in voltmeter mode and protection conductor current meter mode

When a "No judgment value at the leak current test" error occurs

- When the setting of the frequency range is 0.1Hz, the measurement value may not be captured within the test period because measurement is taking a long time. In this case, the frequency range must be set to 15 Hz.

• When the measurement range is set to HOLD, or the measured current value is out of the guaranteed accuracy range, the measurement value is invalid. Select the appropriate range.

(8) Connection-switching function

WARNING

Make sure connections are switched properly before conducting tests. If connections do not switch correctly, the execution of tests may damage testers.

NOTE

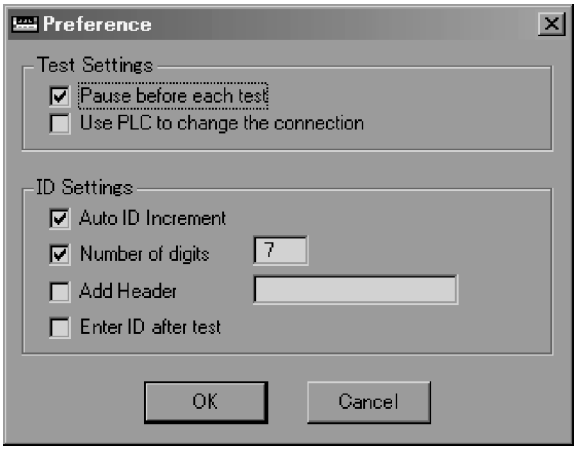
Verification of the test-system operation before and after each workday ensures the reliability of measurement results for safety tests and data recording.

This software features a connection-switching function. This function transmits a command to a PLC (programmable logic controller) prior to each test, to execute connection switching. To use this function, make the settings specified below.

1. Select [**Settings**]-[**Preferences**] menu.

2. Place a check in the box for [**Use PLC to change the connection**].

3. Click on [**OK**] to close the dialog box.



4. Select [**Settings**]-[**PLC Settings**] menu to open the setting dialog box. A PLC can be sent commands prior to each test. A wait time to be inserted before the switching operation can also be set. This dialog box is used to make communication settings. Make proper settings according to the PLC used.

NOTE

Multiple commands can be sent to the PLC by inserting double slashes ("//") as separators.
Example: AAAAA//BBBBB
Send command BBBBB followed by AAAAA.
Commands separated by "//" are sent at intervals of approximately 250 ms.

(9) Using the ID function

This software assigns an ID to each test sample, and records test data together with the ID. The ID function offers the optional settings specified below. For setting changes, select [**Settings**]-[**Preferences**] menu to display the initial-setting dialog log.

- Automatic increment of ID numbers
  The ID number automatically increases by 1 increment after the completion of a test.
- Numerical-digit designation
  The number of digits of the numerical part of the ID can be specified. Non-specified digits are set to "0."
- Addition of a character string
  A character string can be added at the beginning of the ID.
  For example, "A0108-" can be added to the ID to indicate "manufacturing No. + year + month." In this example, the ID is "A0108-000001."
- Input of an ID after testing
  An ID is normally input prior to a test. However, it is possible to input (check) an ID after a test.

(10) Saving and Loading Test Settings

Test condition settings can be saved to files.
When there are several conditions of tests, the settings can be saved to different files, and by loading the appropriate setting file for a test, the test settings can be easily switched.
To save, select [**File**]-[**Save As**] or [**File**]-[**Save**].
Saved setting files have the extension ".had" (that is, "filename.had").

To load saved settings, select [**File**]-[**Open**].

Chapter 7
Other Information

7.1 Troubleshooting

Q. Communication fails when a notebook PC is used.

A.
The serial (COM) port of the notebook PC may be inactive. In some notebook PCs, the COM port is used for infrared communication, and the serial-port connector on the unit may not be functional. Refer to the operation manual of the notebook PC, and enable use of the serial port.

Q. No serial (COM) port is provided on the notebook PC.

A.
Use a commercially available USB-serial converter (conversion cable).

Q. When the Start Test button is clicked on, the screen displays the error message "Enable command start using test instrument's Option settings," and the software does not start tests.

A.
In the safety tester's Option settings, there is a setting item for enabling and disabling command start.
Enable the command start option. For details, refer to the instruction manual of each tester.

Q. When the Start Test button is clicked on, the screen displays the error message "Communication Error. Check the following," and the software does not start tests.

A.

1. Confirm that the power switches of the testers are turned on.
2. Confirm that the RS-232C crossing cables are connected to the PC's COM ports and testers.
3. Select [**Settings**]-[**Test Settings**] menu, and then check the tester settings in the displayed setting dialog box.
4. Confirm that the connected testers correspond with the testers specified in the test-sequence settings.
5. Select [**Settings**]-[**Preferences**] menu. In the displayed setting dialog box, make sure there is no check mark in the box for [**Use PLC to change the connection**], if no PLC is connected.
6. Select [**Settings**]-[**COM Port**] menu, and then check the COM-port settings in the displayed setting dialog box.

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