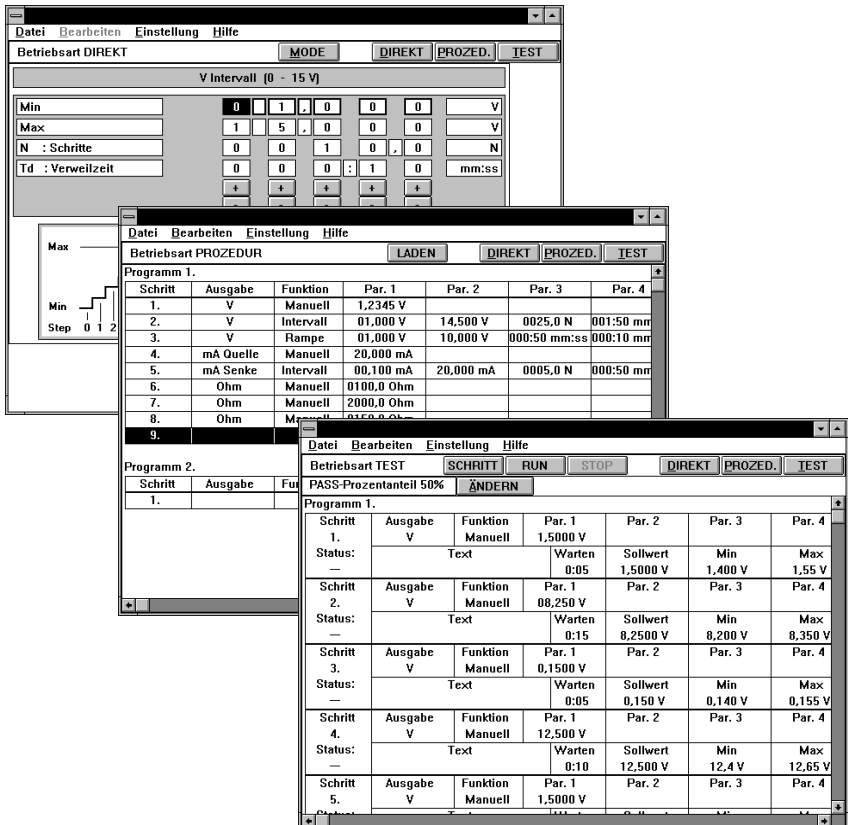


# METRAWin® 90

## Calibration Software

3-348-717-02

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# 1 General

METRAwin 90 allows for simplified calibrator programming. It manages data transfer to the calibrator, receives measurement data from the output of a measurement transducer or converter via an interface multimeter if in use, and it compares set-points and actual values. The software provides for the uploading of calibration values, calibration sequences and complete, measuring point oriented test cycles from the PC directly to the calibrator.

**Important Features included with METRAwin 90:**

- Simple software control of the calibrator by means of direct data entry of individual values.
- Configuration parameters are clearly displayed and easy to change.
- Test programs can be easily written with multiple sequence steps for complex devices or systems components.
- Calibrator-multimeter test sequences can be generated in a device or measuring point oriented fashion for the establishment of a computer aided calibration system.
- Digital, online representation of measurement values in combination with an interface multimeter.
- Test sequences can be stored to electronic media.
- Calibration documentation in test report form including calibration data, complete set-point versus actual value comparison, deviation etc. for each sequence step.

## 2 System Requirements

- IBM AT compatible 80486 PC, 33 MHz, with at least 4 MB RAM
- Hard disc with at least 10 MB available memory
- VGA monitor or better
- MS WINDOWS 3.x / 95 / NT
- 1 serial port, COM1 or COM2, for connection of the interface adapter
- For use with a calibrator with IEC interface:
  - 1 interface adapter in accordance with IEC 625 (Keithley or National Semiconductor)

## 3 Installation

### 3.1 Installing METRAWin 90

METRAWin 90 is installed automatically.

- ⇒ Insert the PROGRAM floppy into disc drive A or B.
- ⇒ Open the file manager and click on the root directory for the disc drive to which the installation floppy has been inserted.
- ⇒ Open the README file with the WINDOWS notebook, which contains the most up-to-date information and corrections which may not be included in these instructions.
- ⇒ Double click the INSTALL.EXE file to start the installation.

The buttons in the dialog box have the following functions:

- “Prog. installieren” Starts installation of METRAWin 90.  
After entering the desired directory path, click the “Installieren” button to install the program to the selected directory.
- “Prog. deinstallieren” Deletes METRAWin 90 from the hard disc and from the user interface.
- “Sprache ändern” You can select the desired installation language with this button.
- “Beenden” Exit the installation program.

After the program has been installed to the selected directory, a program group appears automatically in the WINDOWS program manager.

### 3.2 Accessing Program Documentation

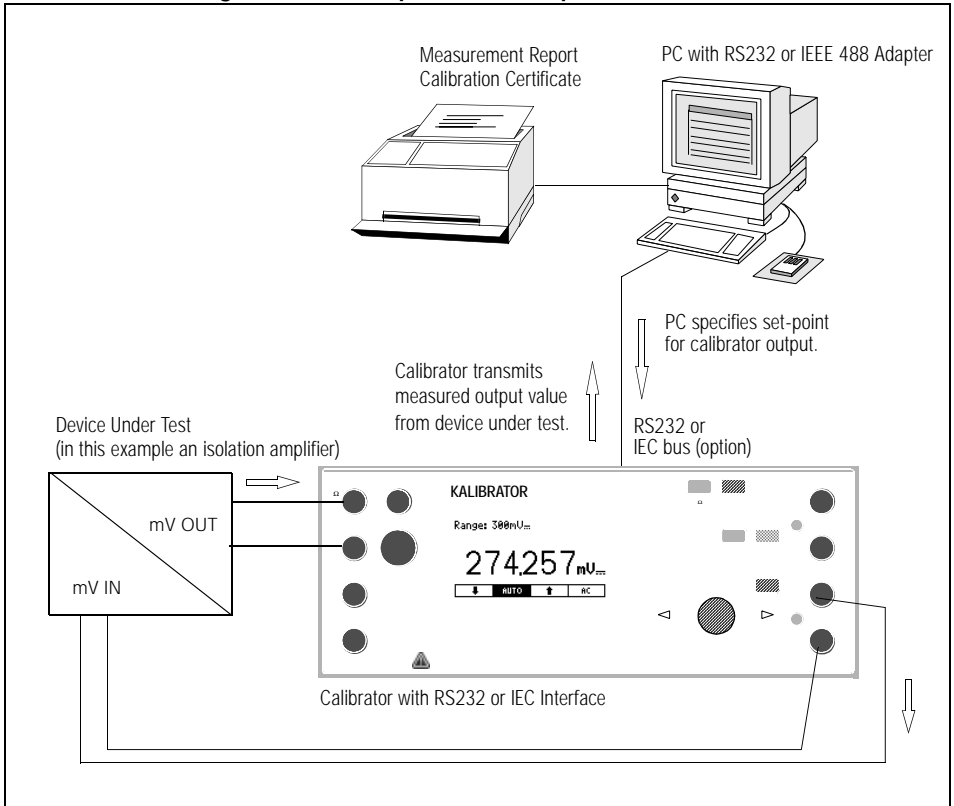
Program documentation can be displayed in the form of online help with the .HLP files or can be printed out with the .WRI files.

In order to print out program documentation open the editor from the accessories program group in the file manager. Open the KAL\_XXX.WRI file and print the help texts (XXX = country code).

## 4 Connecting Measuring and Test Instruments

After METRAWin 90 has been successfully installed, and before the software has been started, connect the measuring and calibration instruments to be used within the calibration system and set them to the data transmission mode.

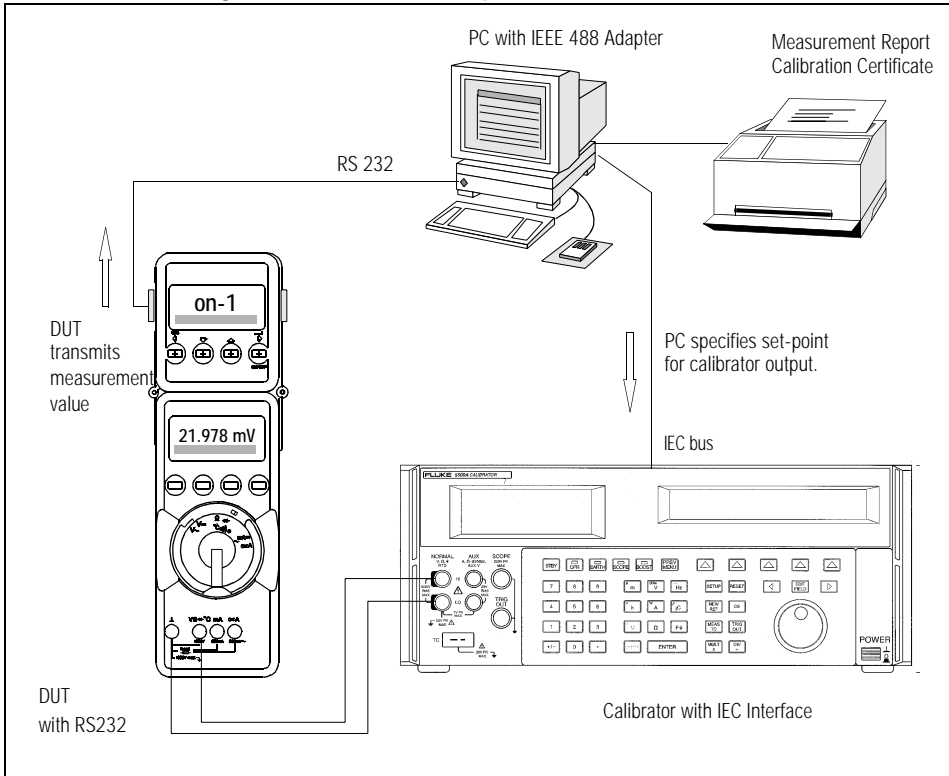
### 4.1 Connecting the METRAtop 53 Benchtop Calibrator



*Applications example "Calibration System for the Calibration of an Isolation Amplifier"*

- Connect the DUT to the calibrator output. Apply the calibration quantity to be measured at the DUT to the calibrator's measurement input.
- Connect the calibrator to the PC with the interface cable. Switch the calibrator on.
- If the TEST mode has been selected with METRAWin 90 (TEST button), all calibrator adjustments and sequences are performed automatically.  
If the DIREKT mode is selected, the multimeter function and the measuring range must be set manually at the calibrator.
- Selection of the REMOTE or the LOCAL mode is made at the calibrator with the LOCAL key (On / Off).

## 4.2 Connecting Fluke 55xx Benchtop Calibrators



Applications example "Calibration System for Multimeter Calibration"

- Connect the calibrator to the PC with the interface cable. Switch the calibrator on.
- Connect the left hand terminal of the memory adapter to the desired PC serial port with the RS232 cable.
- Plug the memory adapter onto the interface multimeter.
- Set each of the instruments to the data transmission mode as follows:


### Multimeter

Activate the ON and DATA-MIN/MAX keys simultaneously.

The  symbol blinks at the display.

Automatic device shut-down is disabled if the interface has been switched on.

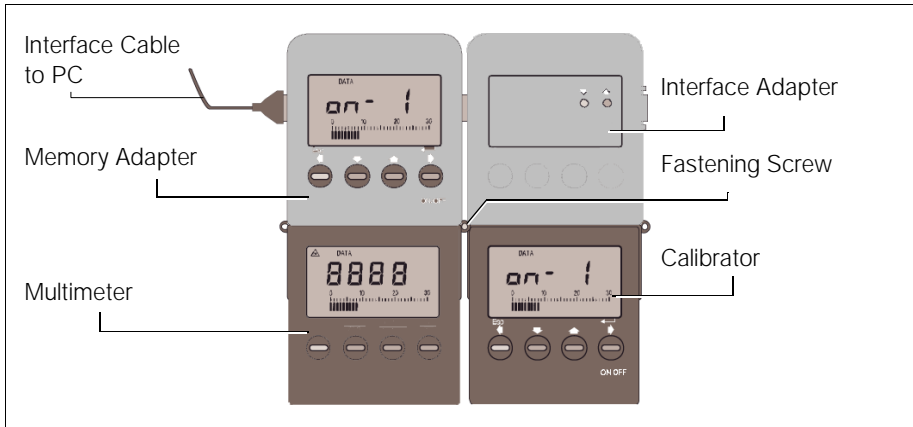
### Memory Adapter

Press and hold the yellow ESC key and press the  key (establishes connection to the PC without intermediate memory). An online connection is established between the memory adapter and the PC. "on- 1" appears at the display and the "DATA" symbol blinks. Make certain that the memory adapter is set to a transmission speed of 9600 baud (default setting). See operating instructions for "METRAWin 10/METRAHit" for use of the memory adapter.


### Calibrator

Is configured automatically by METRAWin 90 via the interface.

### 4.3 Calibration System with Hand-Held Calibrator



The calibration system consists of the following elements:

- METRAHit 18C calibrator with appropriate
  - BD 232 interface adapter and one
  - Interface multimeter, e.g. METRAHit 18S with
  - SI 232 memory adapter (or BD232 interface adapter for METRAHit 2xS)
- ⇨ Connect the left hand jack of the memory adapter to the plug from the interface cable which has been connected to the PC serial port, and secure the connection.
  - ⇨ Pull the fastening screw out of the memory adapter as far as it will go. Connect the right hand interface plug from the memory adapter to the left hand jack at the interface adapter.
  - ⇨ Secure the connections for both interface adapters with the fastening screw.
  - ⇨ Plug the calibrator into the slot at the interface adapter and the interface multimeter into the slot at the memory adapter.
  - ⇨ Set each of the devices to the data transmission mode as follows:
    - Calibrator** Simultaneously activate the ON and scroll up (  $\uparrow$  ) keys. "REMOTE" appears at the display.
    - Multimeter** Simultaneously activate the ON and DATA-MIN/MAX keys. The  symbol blinks at the display. Automatic device shut-down is disabled if the interface has been switched on.
    - Memory Adapter** Simultaneously press the yellow key at the left (ESC) and the scroll down key (  $\downarrow$  ). An online connection is established between the memory adapter and the PC. "on- 1" appears at the display and the "DATA" symbol blinks. Make certain that the memory adapter is set to a transmission speed of 9600 baud (default setting). See operating instructions for "METRAWin 10/METRAHit" for use of the memory adapter.

## 5 Starting METRAWin 90

Before starting METRAWin 90, make certain that the calibrator is switched on and connected to the PC, and that the calibrator self-test has been completed. If the multimeter to be tested has an interface, it must be connected to the COM port at the PC.

METRAWin 90 can be started directly from the program group which was added to the program manager during installation by double clicking on the program icon, or by double clicking the KALI. EXE file in the file manager.

After METRAWin 90 has been started, the following selections must be made in the main menu under "Einstellungen": selection of the desired language and the interface configuration. Two buttons appear underneath the menu bar:

If the "Direkt" button is selected, individual values are read out directly to the calibrator.

If the "Test" button is selected, calibration procedures can be generated using the calibrator as a transmitter with a multimeter as device under test, or as a measuring instrument for the output quantities of other DUTs.

Please refer to the online help texts for further information concerning the program.

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Printed In Germany • Subject to change without notice.

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