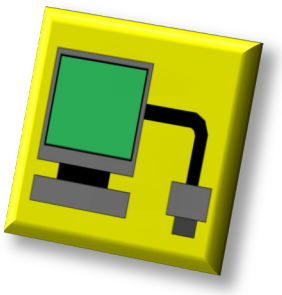
FISCHER MESS- UND REGELTECHNIK

Operating instructions



Transmitter Programmer V2.24

1 Table of contents

2 Connection

The Transmitter Programmer is a PC programme with which you can configure diverse transmitters manufactured by Fischer Mess- und Regeltechnik. You will require a PC[1], a 'Transmitter-PC-Interface'[2], a USB cable as well as a dedicated cable connected to the transmitter.

To avoid problems when establishing a connection we recommend that you observe the following guidelines:

1. Connect the transmitter to the interface.
2. Connect the interface to the PC.

2.1 Transmitter

Transmitter connections vary from version to version. To establish a universal two-wire connection the 'Transmitter-PC-Interface' is supplied as standard with alligator clips, which you can clamp onto the normal connection cable of the transmitter terminal.[3]

The interface can also be supplied with a terminated connection cable for transmitters with M12 plug-in connections.

2.2 Transmitter-PC-Interface

The EU13 with USB interface is used for transmitters with a two-wire connection. The EU03 with an RS232 interface is used for a three-wire connection. To ensure that this can also be operated on a USB interface a USB/RS232 adapter is supplied with each device.

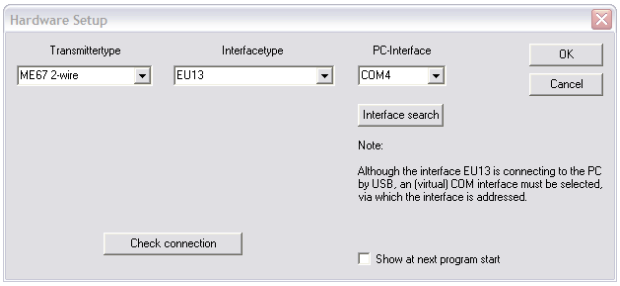
The interface of the EU13 is powered via the PC interface. The EU03 requires an additional power adapter.

The transmitter is supplied with power by means of an internal +24V auxiliary voltage from the interface, which is activated when required. The 24 V auxiliary voltage remains off if no transmitter interface is connected to the PC interface. No power will be supplied to a transmitter connected subsequently (the +24V LED is off).

The +24 V auxiliary voltage is activated as soon as the interface is supplied with power and finds the connected transmitter (the +24 V LED lights up).

3 Establishing a connection

Launch the Transmitter Programmer. First the main screen will open followed immediately by a dialog box. This is the Hardware Setup dialog box.



Here you can enter which transmitter you have connected and what interface you are using. To set the right PC interface[4] click the <Interface search> button. A relevant message is displayed as soon as the interface is found.

After you have completed the settings you can then test the connection. To do so click the <Check connection> button. A relevant message is displayed if communications to the transmitter have been established.

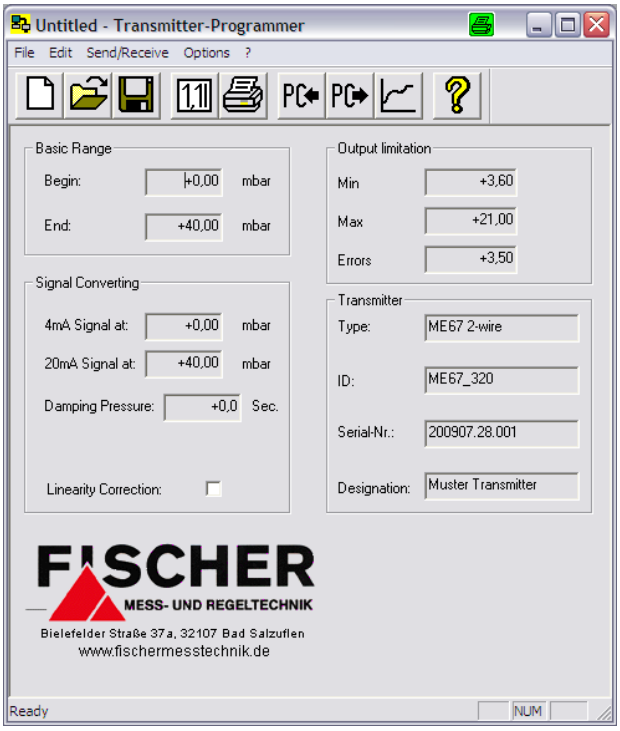
You have now successfully established a connection between your PC and the transmitter. If contrary to expectations you experience difficulty establishing a connection check the connections have been made properly and the +24 V auxiliary voltage from the interface. To access the main screen click the <OK> button.

[1] System requirements are detailed in the Appendix.
[2] as EU13 or EU03
[3] To view a connection diagram please refer to the data sheet or operating instructions.
[4] Please observe the information displayed in the Hardware Setup dialog box.

4 Programme functions

4.1 Main screen

Saved data or data received from the transmitter are displayed in the main screen.



4.2 Hardware setup

The hardware setup is automatically displayed in the main screen when the programme is launched. To alter these settings at a later date, proceed as follows:

"Options > Setup Hardware"

4.3 Password

It is possible to protect against unauthorised access to the programme with a password. To do so proceed as follows:

"Options > Password"

The next time you launch the programme you will be prompted to enter the set password. To deactivate this access restriction at a later date, simply leave the password and repeat password fields empty.

4.4 Language

German and English are available at the present time. To select a language proceed as follows:

"Options > Language"

4.5 Receiving data

To read-out data from the transmitter, proceed as follows:

 or "Send/Receive > Receive"

The Data Transfer dialog box is displayed on the monitor. The data is displayed on the main screen once the transfer has been completed successfully.

4.6 Editing data

To edit data, proceed as follows:

 or "Edit > Actual Data"

This command is not available when the programme is first launched. It is possible to edit data only after data from the transmitter has been read-out or you open a saved file.

For further information about this function please refer to the section 7.

4.7 Transmitting data

To transmit data to the transmitter, proceed as follows:

 or "Send/Receive > Send"

This command is not available when the programme is first launched. It is possible to transmit data to the transmitter only after data from the transmitter has been read-out or you open a saved file.[5]

4.8 Saving data

You can save data as well as access saved data. To do so use the corresponding commands in the "File" menu or the symbols in the menu bar.

[5] Please note: it may not be possible to restore factory settings once they have been overwritten. Consequently, we recommend that you read-out and save this data.

5 Measurements

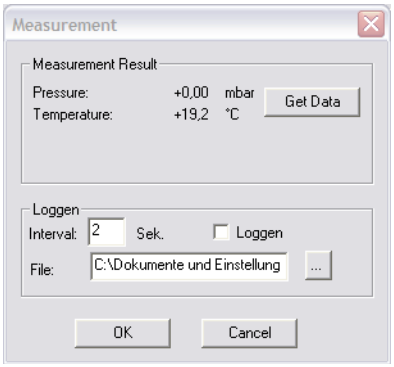
It is not possible to access the main screen when this function is active.

5.1 Transmitting measurement values

To transmit current pressure and temperature[6] measurement values, proceed as follows:

 or "Send/Receive > Measurement"

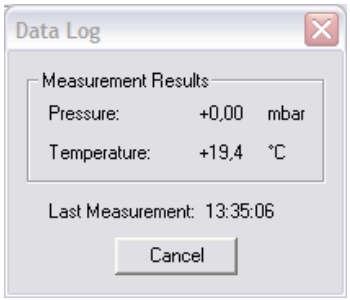
The "Data Transfer" dialog box is displayed on the monitor. As with the “Receiving data” function (refer 4.5) the data is initially read-out from the transmitter and displayed in the main screen. Immediately afterwards the "Measurement value" dialog box opens.



The measurement values displayed are up-to-date at the time of data transmission. Press the <Get data> button to reload and update these values.

5.2 Automatic logging

You can also automatically log the measurement values. To do so select the measurement interval (2...120 s) and enter the name of the file in which the data is to be saved. Select the “Loggen“ checkbox (refer to 5.1) in the "Measurement value" dialog box then click the <OK> button to confirm.



[6] This is the temperature measured at the sensor element and not the temperature of the medium.

Updated data will then be displayed at the selected time interval in the "Log data" dialog box. At the same time the data is saved to the selected file in CSV format[7].

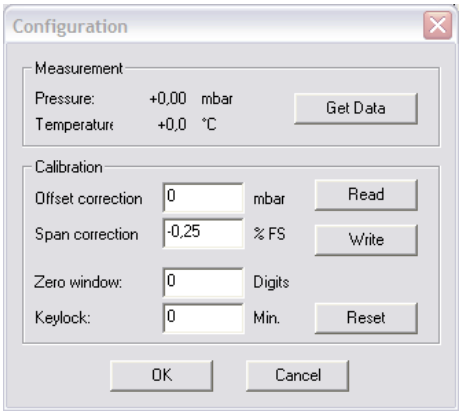
```
15.10.2009;09:58:52;+40.07;+020.7
15.10.2009;09:58:54;+40.07;+020.7
15.10.2009;09:58:56;+39.92;+020.7
15.10.2009;09:58:58;+33.92;+020.7
15.10.2009;09:59:00;+34.03;+020.7
15.10.2009;09:59:02;+34.05;+020.7
15.10.2009;09:59:04;+33.85;+020.7
15.10.2009;09:59:06;+33.85;+020.7
15.10.2009;09:59:08;+07.19;+020.7
15.10.2009;09:59:10;+07.36;+020.7
15.10.2009;09:59:12;+07.59;+020.8
15.10.2009;09:59:14;+07.86;+020.8
15.10.2009;09:59:16;+07.75;+020.8
15.10.2009;09:59:18;+60.61;+020.8
15.10.2009;09:59:20;+60.24;+020.8
15.10.2009;09:59:22;+00.00;+020.8
15.10.2009;09:59:24;+00.00;+020.8
```

6 Configuration

To alter the configuration of the transmitter, proceed as follows:

"Send/Receive> Calibration"

The "Configuration" dialog box is displayed on the monitor. The current measurement values for pressure and temperature are displayed in the top part of the dialog box.
This function is identical with the display in the "Measurement values" dialog box (refer to 5.1).



The input and parameter display fields are displayed in the bottom part of the dialog box. Three buttons are assigned to these fields; the names of which are directly attributable to their function.

[7] Date; time; pressure; temperature

6.1 Offset correction

This parameter allows you to undertake zero-point offset correction of the pressure measurement value.

The permissible value range is -10…+10% of the basic measuring range. Consequently, in our example of an ME67 with 0…40mbar you are able to set the offset correction value between -4 mbar and +4 mbar.

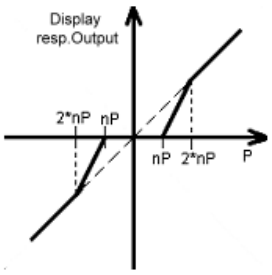
6.2 Span correction

This parameter allows you to correct pressure measurement spans. The measurement spans of the transmitter are factory set. As a rule, on-site correction is not necessary.

The permissible value range is -10…+10 %.

6.3 Zero window

A “Zero window” is defined as a zone around the zero point, where the measurement value is set permanently to zero. Outside of the zone the measurement value is approximated as depicted in the graphic.



Values are indicated in digits. For transmitters equipped with a display the value of a digit is indicated directly in display increments for the given range. When using a transmitter without a display you can view this information in the 'basic measurement range' section of the main screen.

Examples:
The basic measurement range is indicated as 0.00 to 40.00 mbar. Thus, 1 digit corresponds to an increment of 0.01 mbar.

The basic measurement range is indicated as 0.0 to 100.0 bar. Thus, 1 digit corresponds to an increment of 0.1 bar.

The permissible value range is 0…1000 digits

6.4 Key lock [8]

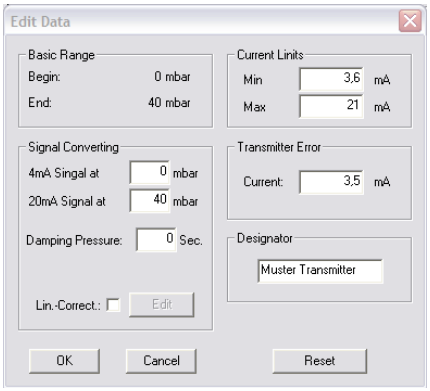
The keypad is locked automatically if no key is used within a set time period. To unlock the keys turn the transmitter off and on again. To deactivate the key lock set the time to zero.

The time is entered in minutes. It is possible to set a time between 0…100 minutes

7 Parameterisation

To enter or edit parameters, proceed as follows:

 or "Edit > Actual data"



The "Edit data" dialog box is divided into five sections. Please be aware: your settings will first take effect after you send the data to the transmitter (refer to 4.7).

7.1 Basic Range

The measurement range is displayed in this section.

7.2 Current Limits

With these parameters you set the limit values of the output signal within the technical limits of 3.5...22.5 mA (please refer to the data sheet).

Example:
The transmitter is to be operated within the limits 3.6...21 mA (e.g. NAMUR). Consequently, enter 3.6 for Min and 21 for Max. For fault current you can then enter 3.5 or 22.

7.3 Transmitter Error

Enter the current value in this section that the transmitter should issue when an internal error occurs. The permissible value range is 3.5...22.5 mA. Ensure that the value is outside of the current limits settings.

[8] Not all transmitters are equipped with a keypad. If you are using such a transmitter please ignore these parameters.

7.4 Signal Converting

With these parameters the transmitter can be set to accommodate the special requirements of your plant or processes.

7.4.1 Output signal

In this section enter the pressure values at which the transmitter should issue a 4 or 20 mA output signal. It is only possible to enter values within the limits of the displayed basic measurement range (compare 7.1)

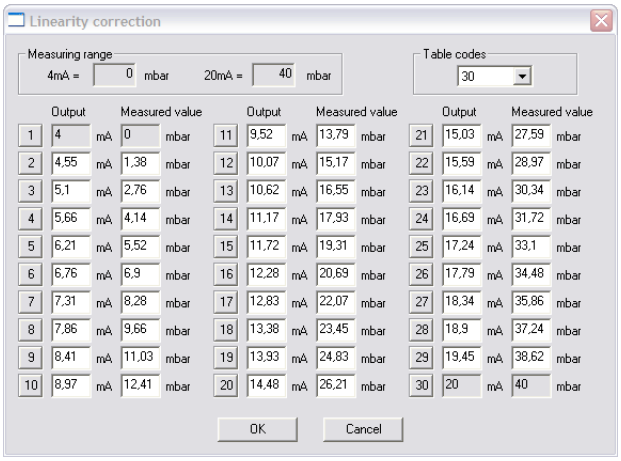
Example:
If the pressure is not exactly zero when your plant is not being operated, you can assign a current signal of 4 mA to this 'zero point'.

7.4.2 Damping

This parameter serves to "settle" fluctuating values during pressure measurements. Set a step response time to adapt the transmitter to your measurement task. The possible range is between 0...200 seconds.

7.4.3 Linearity correction

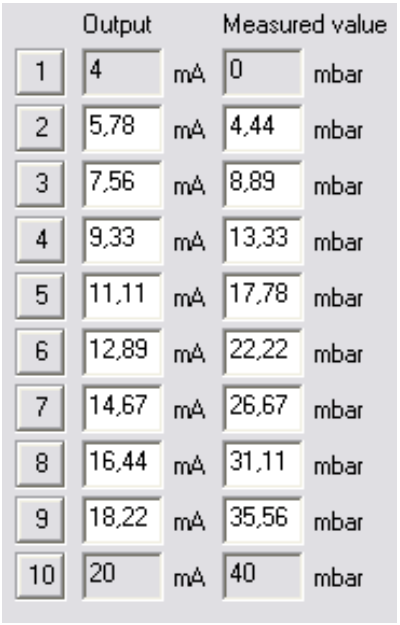
This function allows you to calibrate the output signal to your process by entering intermediate points. To open the "Linearity correction" dialog box select the relevant checkbox and click the <Edit> button to confirm:



In the table the output signal is divided into 30 intermediate points. The set current limits (compare 7.2) are taken into account.

Example: Level measuring
Depending on the geometry of the tank the volume need not necessarily bear a linear relationship to the fill level. To correct these deviations the tank is filled in 10% steps.

Select the number of intermediate points = 10. The table will then be refreshed as follows:



Measure the pressure after each filling procedure (compare 5), and enter the value determined into the table.[9] Transfer the data to the transmitter as soon as all values have been determined.

Linearity correction has no effect on the pressure indicated in the display. It affects the output signal only.

7.5 Designation

If desired, you can assign a designation or name to the transmitter.

[9] For control purposes check the output signal.

8 Appendix

8.1 System requirements

PC, laptop or notebook are suitable if one of the operating systems listed below is installed and equipped with a USB interface.

Operating system:

- Windows 98
- Windows XP
- Windows 2000
- Windows Vista
- Windows 7

Interface:

- USB 1.1
- USB 2.0

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