

INTERFACE



User Manual

UM EN MACX MCR-CONF

Quick Start Guide for the
MACX MCR-CONF configuration software

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Quick Start Guide for the MACX MCR-CONF configuration software

2009-12-08

Designation: UM EN MACX MCR-CONF

Revision: 03

Order No.: —

This user manual is valid for:

Designation	Version	Order No.
MACX MCR-CONF	1.1.7 or later	—

Please observe the following notes

In order to ensure the safe use of the product described, you have to read and understand this manual. The following notes provide information on how to use this manual.

User group of this manual

The use of products described in this manual is oriented exclusively to

- qualified electricians or persons instructed by them, who are familiar with applicable standards and other regulations regarding electrical engineering and, in particular, the relevant safety concepts.
- qualified application programmers and software engineers, who are familiar with the safety concepts of automation technology and applicable standards.

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Explanation of symbols used and signal words



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER

This indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

This indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

This indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

The following types of messages provide information about possible property damage and general information concerning proper operation and ease-of-use.



NOTE

This symbol and the accompanying text alerts the reader to a situation which may cause damage or malfunction to the device, either hardware or software, or surrounding property.



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1 Installing MACX MCR-CONF

MACX MCR-CONF is a configuration software solution for parameterizing devices from the MACX MCR product range.

The software is a stand-alone tool for installation on PCs and laptops.

1.1 Requirements



No functions or commands that require communication with the device can be executed without a physical configuration.

However, complete parameterization is possible in the "offline" state.

Communication with the device is only possible by means of an "IFS-USB-PROG-ADAPTER" programming adapter, which is available as an accessory.



Figure 1-1 IFS-USB-PROG-ADAPTER, Order No. 2811271

1.1.1 System requirements

Supported operating systems

Windows 2000

Windows XP SP2 or later (recommended)

Windows Vista SP1 or later

1.1.2 Hardware requirements

CPU	Pentium III 400 MHz, 1 GHz (recommended)
Main memory	256 MB (minimum), 512 MB (recommended)
Hard disk space	15 MB (minimum), 100 MB (recommended)
CD-ROM drive	Yes
Interfaces	USB (1.1 or later)
Interface adapter	IFS-USB-PROG-ADAPTER, Order No. 2811271
Monitor	SVGA, resolution of 1024 x 768 pixels (minimum), 1152 x 864 pixels (recommended)
Operating devices	Mouse, keyboard

1.2 Installing the software

Prior to installation

If an earlier version has been installed, uninstall this version via the Windows Control Panel under "Software".



Prior to installation, close all open Windows applications.

1.2.1 Starting the installation program

Downloaded installation file

- Start the "MACX_MCR_CONF_Install_1_x_x.exe" file from the directory in which this file was downloaded.

CD-ROM installation level

- If you have received a CD, insert it in your CD-ROM drive.
The installation program usually starts automatically after a few seconds.
If this is not the case, start the "MACX_MCR_CONF_Install_1_x_x.exe" file on the CD-ROM.

Starting installation

An installation wizard is called, which guides you through the installation process.

- Follow the instructions in the installation program.
The installation program generates all the directories required for operation and copies the files for the selected programs.

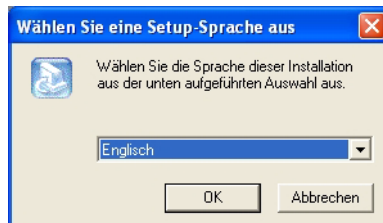


Figure 1-2 Selecting the setup language

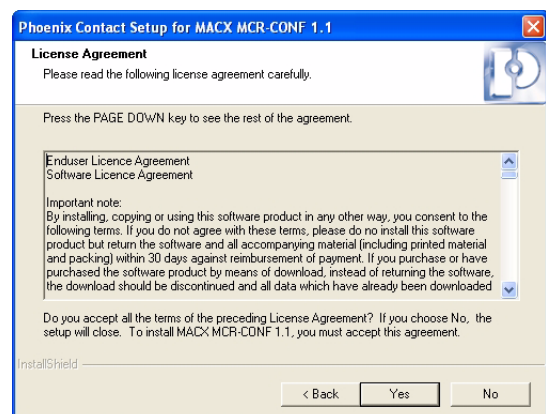
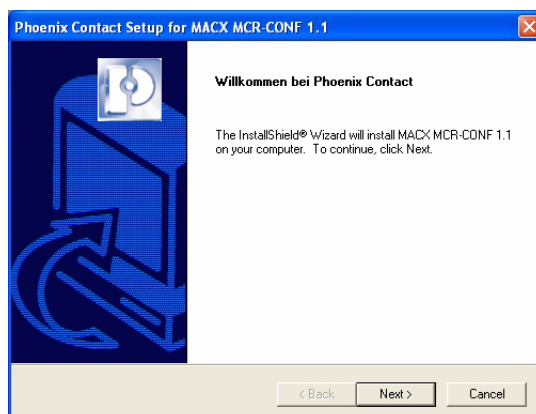


Figure 1-3 Installation wizard (1)

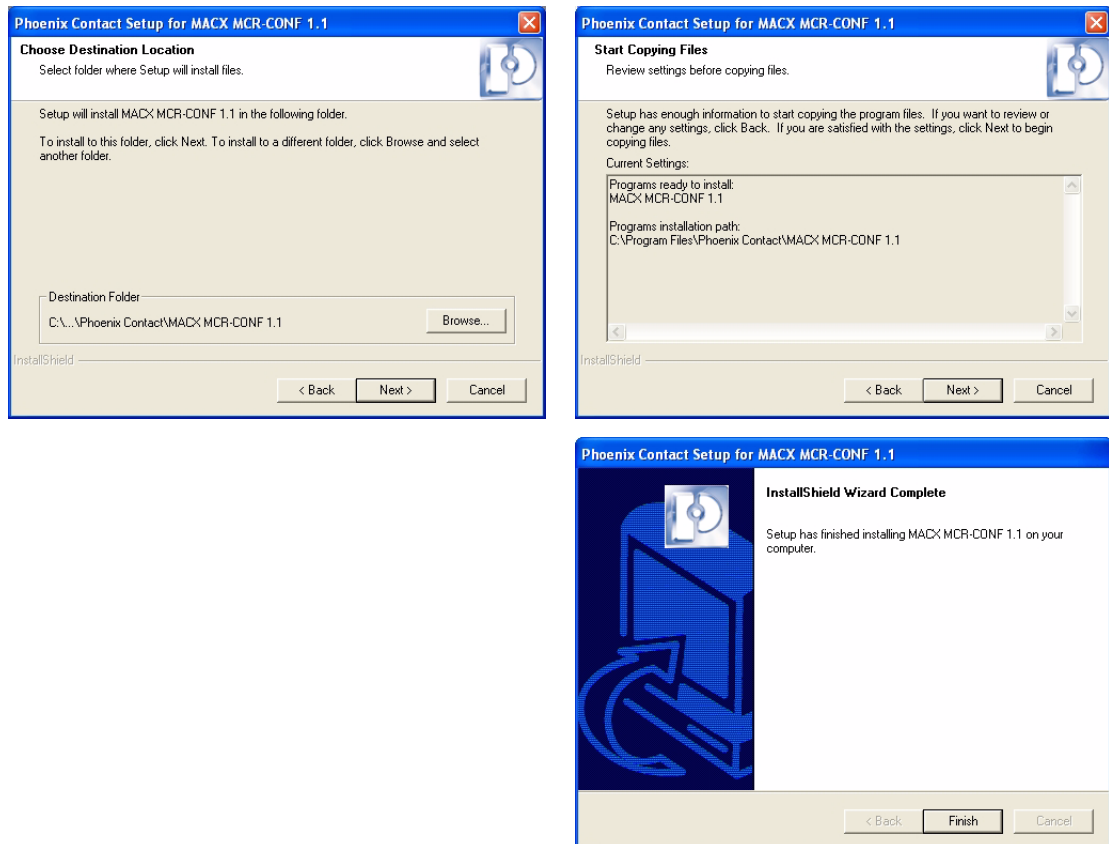


Figure 1-4 Installation wizard (2)

**Note for Windows XP**

If during installation under Windows XP an alert appears stating that the software has not passed Windows logo testing, continue with the installation process.

Following program installation, the wizard for installing the USB driver is started. This installs all the files needed to operate the "IFS-USB-PROG-ADAPTER".



Figure 1-5 Installing the programming adapter

Connect the computer to a MACX MCR-EX-SL temperature transducer using the "IFS-USB-PROG-ADAPTER" programming adapter, which is available as an accessory.



Only click on "Install" once the connection to the device has been established. Otherwise click on "Cancel" and switch to offline mode.

1.2.2 Installing the USB driver

The USB driver is installed in two steps. First, a "USB Composite Device" is installed, then the "USB Programming Adapter IFS" is installed in the second step.

If the "IFS-USB_PROG-ADAPTER" is connected to the USB connection, the Windows hardware wizard starts.



Note for Windows XP

If during installation under Windows XP an alert appears stating that the software has not passed Windows logo testing, continue with the installation process.

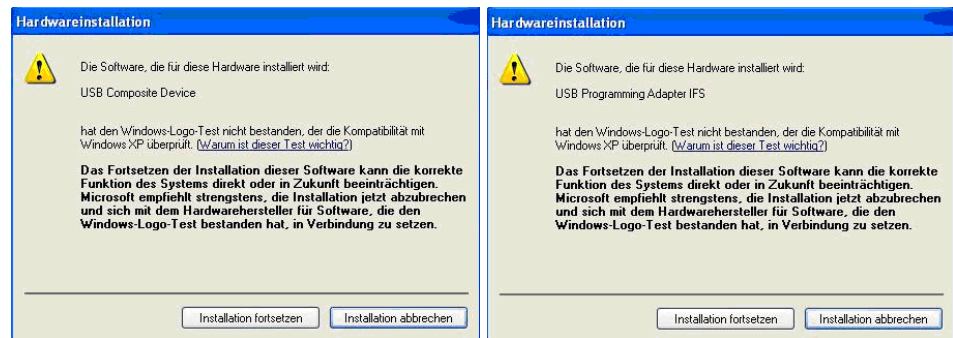


Figure 1-6 Alerts about Windows logo testing



Note for Windows Vista

If an error message stating that "Windows can't verify the publisher of this driver software" appears, select "Install this driver software anyway" and continue the installation process.

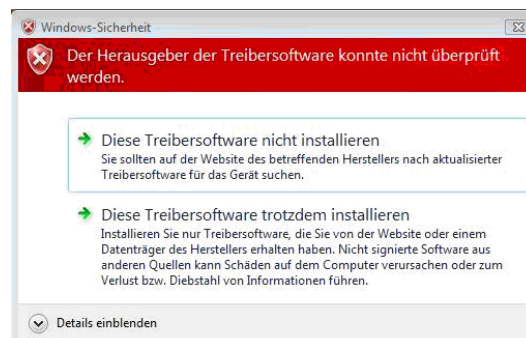


Figure 1-7 Note for Windows Vista

The Windows hardware wizard appears.

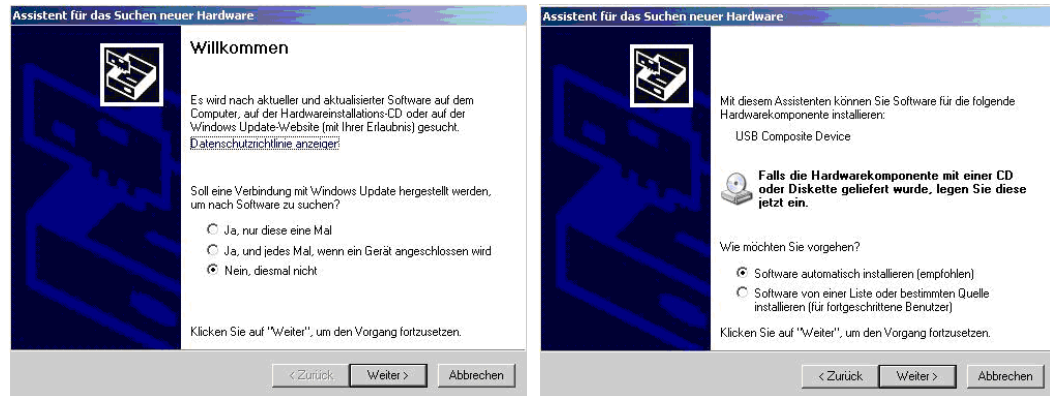


Figure 1-8 Windows hardware wizard (1)

- When prompted, select "No, not this time" and "Install software automatically".

The hardware wizard now starts the installation process for the "USB Composite Device" driver.

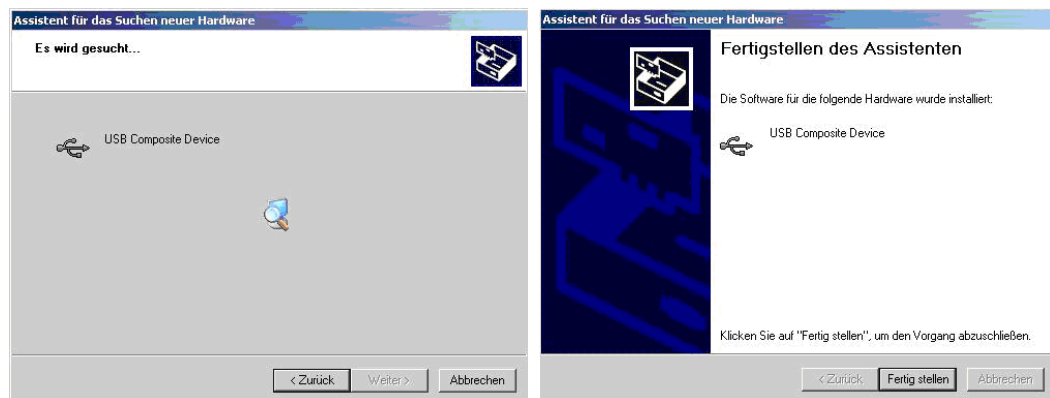


Figure 1-9 Windows hardware wizard (2)

- Click on "Finish".

The hardware wizard is started again following successful installation.

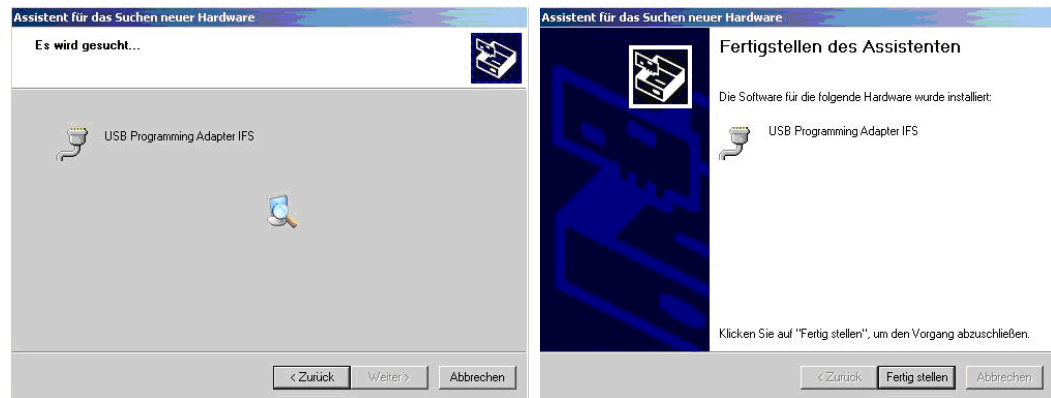


Figure 1-10 Windows hardware wizard (3)

- When prompted, again select "No, not this time" and "Install software automatically".
- Click on "Finish".

The drivers for the "USB Programming Adapter IFS" are now installed.

Following successful installation, the "USB IFS-USB_PROG-ADAPTER" is ready to operate.

2 Starting MACX MCR-CONF

- If installed using the default settings, start MACX MCR-CONF via "Start/All Programs/Phoenix Contact/MACX MCR-CONF 1.1/MACX MCR-CONF 1.1".

Response following program start

The USB port is scanned to check whether a MACX MCR device is already connected.

1. If a device is found:
 - The configuration window opens, if the device is known.
 - An error message is displayed, if the device is not known.
2. If a device is not found:
 - Window with device selection list for offline configuration
 - Select the device
 - Switch to offline configuration

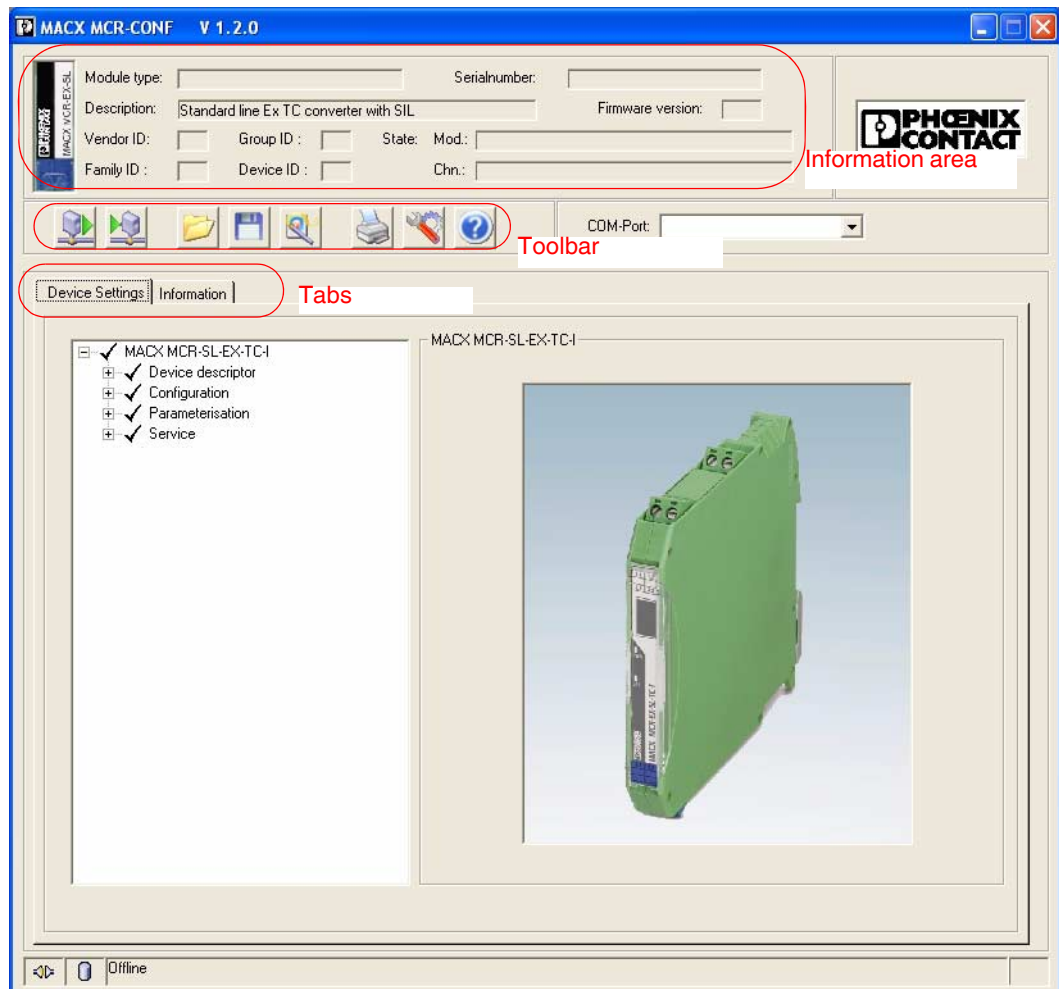


Figure 2-1 Configuration window

2.1 Information area

The following information about the currently connected device is displayed here:

Device image	A stylized image of the front view of the device is displayed here.
Device information	Device type Description Device IDs Serial number Firmware version Status information
Manufacturer logo	An image of the manufacturer's logo is displayed here.

2.2 Toolbar

The toolbar contains the following menu items:



Read device settings

This button can be used to read the device data of a connected device.

If the connected device is not supported, an error message is displayed.



Transfer (local) device settings to the device

If no device is connected, this option is grayed out.

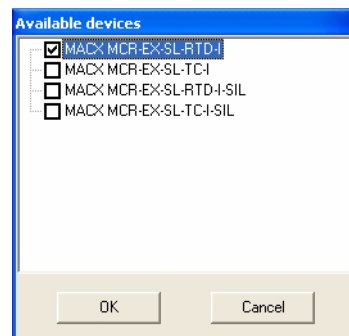
When this button is pressed, the current local device settings are transferred to the device.



Offline setting

If no device is connected, this option is grayed out.

When this option is selected, a list of supported devices is opened, from which the required module can be selected.



Load device settings from data carrier

Can be used to load prepared device settings from a local data carrier or network drive in the current workspace window.



Save device settings to data carrier

Can be used to save the current device settings to a local data carrier or network drive.



Print device settings

The current device settings can be printed in table format for documentation purposes.



Settings

This menu item can be used to set the software language.



The selected language is activated the next time MACX MCR-CONF is started.

In Version 1.2.0, English and German are available. French and Spanish are to follow.



Help

This menu item opens this user manual as a PDF file.

2.3 Tabs

2.3.1 Device Settings

The "Device Settings" tab contains configuration and parameterization dialog boxes that are relevant for the connected device.

The tree structure is divided into the following groups:

- Device descriptor
- Configuration
- Parameterization
- Service



If a yellow padlock appears in front of the menu items in the tree structure, these menu items are locked. To unlock them, enter a password via the "Service" menu item (see page 2-8).

In all windows in which parameters can be modified:

- The modified parameters are indicated with an icon (pencil)
- The "Cancel" button is available to reject the current changes

Device descriptor A device designation (16 characters), user text (20 characters, maximum), and the installation date can be specified here.

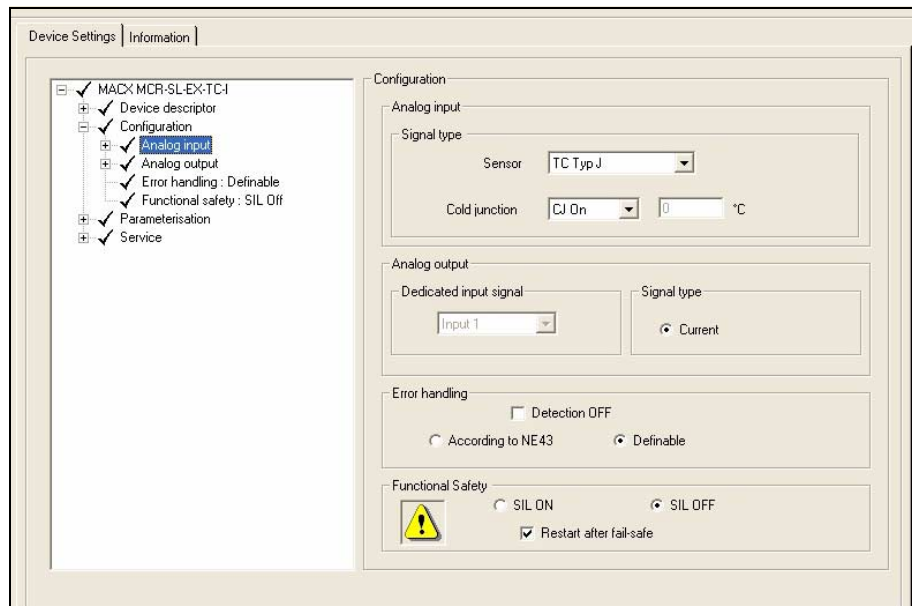
In addition, the module name, serial number, and firmware version are displayed.

The screenshot shows the 'Device Settings' dialog box with the 'Information' tab selected. On the left, a tree structure lists the following items: 'MACX MCR-SL-EX-TC-1' (checked), 'Device descriptor' (checked and selected), 'Tag number : Max. 16 Zeichen' (checked), 'User Message : Max. 20 Zeichen' (checked), 'Date : 22.08.2008' (checked), 'Configuration' (checked), 'Parameterisation' (checked), and 'Service' (checked). On the right, the 'Device descriptor' section contains the following fields: 'Device descriptor' (text box with 'MACX MCR-SL-EX-TC-1'), 'FW Version:' (text box), 'S/N:' (text box), 'Tag number : Max. 16 Zeichen' (text box), 'User Message : Max. 20 Zeichen' (text box), and 'Date : 22.08.2008' (dropdown menu).

Configuration	Input	The analog input specific to the device is set here: <ul style="list-style-type: none"> – Signal type/sensor type – Connection method – Sensor monitoring
	Output	The information displayed here is purely informative and cannot be modified.
	Error handling	The following settings are possible: <ul style="list-style-type: none"> – According to NE43 (upscale) – According to NE43 (downscale) – Definable – Detection OFF
	Functional safety	This item is only available if a SIL-compatible module (firmware Version 1.100 or later) has been selected.

When "SIL ON" is selected, "*Restart after fail-safe*" can be deactivated.

This means that in the event of an error, the measuring transducer enters the failsafe state according to safety functions 1 and 2, but is not restarted.



Parameterization**Input**

The analog input specific to the device is set here:

- Signal range
- Temperature unit (depending on sensor type)
- Oversampling (mean-value generation)
- Moving average
- Cable resistance compensation for 2-wire measurement (MACX MCR-EX-SL-RTD... only)

The screenshot displays the 'Device Settings' window with the 'Information' tab selected. On the left, a tree view shows the following settings: Device descriptor, Configuration, Parameterisation, Analog input (highlighted), Analog output, Zero/Spann, Exception handling, and Service. The main area is titled 'Parameterisation' and contains the following settings:

- Signal range Analog input:** A range from 0 °C to 100 °C.
- Temperature unit:** A dropdown menu set to °C.
- Oversampling:** A dropdown menu set to 10 x.
- Moving average filter:** A dropdown menu set to 2 value(s).
- 2-wire compensation:** A section with a 'Cable impedance' input set to 0 Ohm.

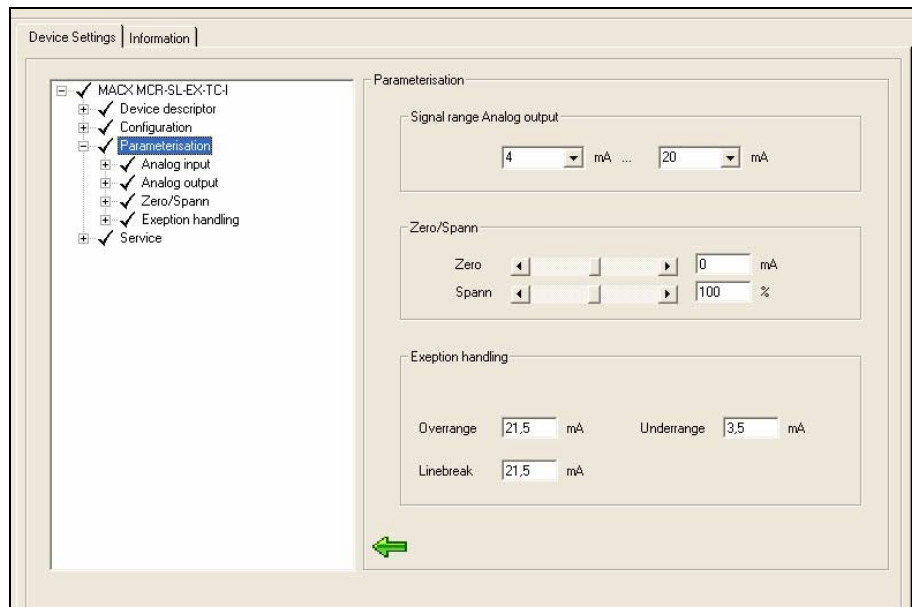
A green arrow button is located at the bottom right of the parameterization section.

Parameterization

Output

The analog output specific to the device is set here:

- Specification of the output signal range (0 ... 20 mA, 4 ... 20 mA)
- Zero/span adjustment
- Values for exception handling



Service

The following settings can be made under the "Service" item:

- Locking – **Unlock entry:**
 - There are three operating levels:
 - **Monitoring mode:** Locking field is empty or contains an incorrect entry
 - **Parameterization mode:** Parameterization level is enabled by entering the parameterization password (default: 0000)
 - **Configuration mode:** Parameterization and configuration levels are enabled by entering the configuration password (default: 0000)
 - See also "Changing the password" on page 2-8.
- **Lock entry:** Delete entry in "Locking" field
- Reset device – Reset the module (**Reset**)
- Simulation – **Simulation** (only possible in configuration mode)



WARNING: Simulation directly affects the process connected to the device and may only be used by trained personnel.

The analog output can be set here by making the following selections:

- (A) Set the output to a percentage value of the set range
- (B) Set zero/span adjustment
- A combination of (A) and (B)



The values for zero/span adjustment can be applied by clicking on "Apply" in the corresponding parameterization dialog box. They are permanently saved to the device when the parameters are transferred to the module.

Changing the password

The measuring transducer has two password levels. The password for each level is saved to the device.

- The first level only allows changes to be made to the **parameterization** (measuring range, etc.).
- The second level provides full access, i.e., the sensor can be changed and the *functional safety* functions can be deactivated (**configuration**).

Both passwords are set to "0000" by default.



NOTE: Protect the measuring transducer with an appropriate password when it is used in safety-related systems.

Change the password for **configuration mode**.

- Call the MACX MCR-CONF configuration software.
- Read the active configuration.
- Enter the password for configuration mode under *Service* → *Locking* (default: 0000).
- Click on *Service* → *Locking* → *Change*.
- Select a password – not 1234 or 1111.
- Enter the old password; then enter the new, secure password twice.

Once the password for configuration mode has been changed, the password for **parameterization mode** can also be changed:

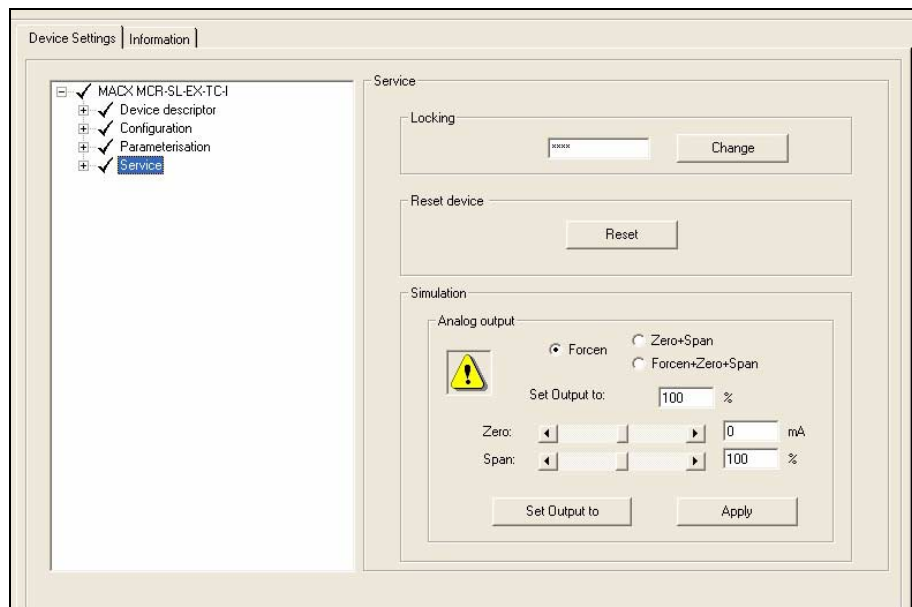
- Enter the password for parameterization mode under *Service* → *Locking* (default: 0000).
- Click on *Service* → *Locking* → *Change*.
- Select a password – not 1234 or 1111.
- Enter the old password; then enter the new, secure password twice.

If the same password has been selected for both modes, the higher mode (configuration mode) is started the next time the password is entered.

If different passwords have been selected, only follow the second part of the instructions above to change the parameterization password.



The new password is only saved to the device when the parameters are transferred.



2.3.2 Monitoring

This function enables the monitoring of a connected MACX MCR device and is only available in online mode.

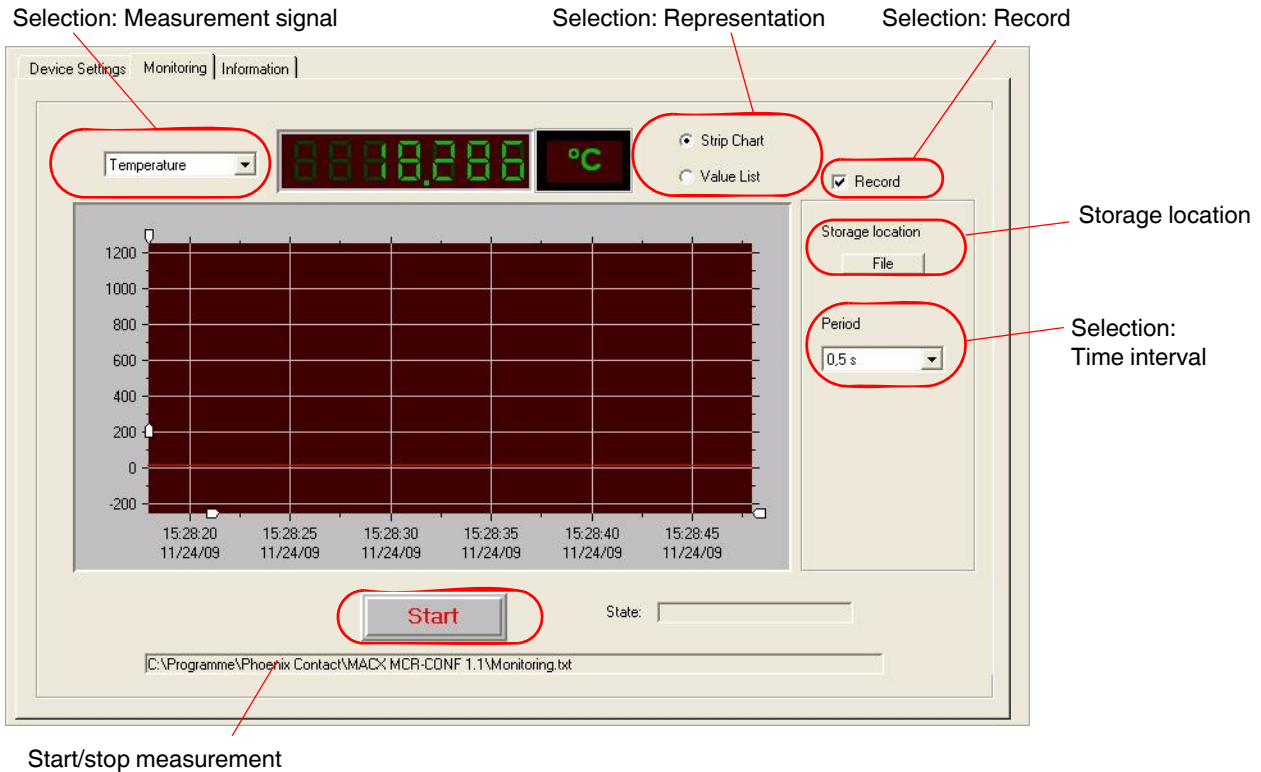


Figure 2-2 Tab: Monitoring

**Selection:
Measurement signal**

- For the MACX MCR-EX-SL-TC...
Temperature, Temperature of Cold Junction, Output Value (mA)
- For the MACX MCR-EX-SL-RTD...
Temperature, Resistance, Sensor Current, Output Value (mA)

Selection: Representation

The values can be represented as curves ("Strip Chart") or in table form ("Value List").

**Selection: Record
Selection: Time interval**

A recorded measurement curve can be stored as a text file on a data carrier ("Record" checkbox) and later imported into Microsoft Excel. The following time intervals are available as scanning rates for the sequence of measurements: 0.5 s, 1.0 s, 5.0 s, 10.0 s, 30.0 s, 1 min., and 5 min. The operating system time is used as the time base.

Storage location

The storage location for the measured value file can be specified under "File...". Once 32,000 measured values have been recorded, the file is closed and a new file is opened with an additional index in the file name.

Start/stop measurement

Measurement is started by clicking on "Start" and stopped by clicking on "Stop".