

Operating manual

GTL - Configuration tool



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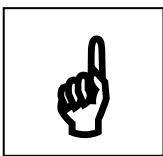
1 Intended use (application area)



The chapter "Product description" provides details on the application area.

The operational safety of the device is only ensured for the intended use according to this manual. Any changes not described in this manual must only be done by personnel authorized by the manufacturer due to security and warranty aspects. Unauthorized reconstructions or changes are expressly prohibited.

Application-specific hazards may be provoked by improper or not intended use of this device.



The device must **not** be used in potentially explosive areas or for security-related components according to SIL.

General safety notices, application




This manual must be kept at a place at which it can be looked at anytime by the qualified personnel.

All procedures described in this manual must only be done by skilled and authorized personnel with adequate protective clothing.

All rights reserved.

1.1 Safety signs and symbols

Warnings are labeled in this document with the following signs:

 DANGER	<p>Caution! This symbol warns of imminent danger, death, serious injuries and significant damage to property at non-observance.</p>
	<p>Attention! This symbol warns of possible dangers or dangerous situations which can provoke damage to the device or environment at non-observance.</p>
	<p>Note! This symbol points out processes which can indirectly influence operation or provoke unforeseen reactions at non-observance.</p>

1.2 Safety guidelines

Read this document carefully before you use the device.
Assure that the device is suitable for the desired application.



The operator is responsible for interference-free operation. He must assure the accordance to required job safety measures of the current applicable regulations during the whole period of application.

1.3 Product liability and und warranty

Disclaimer:

The content of the manual is checked for conformity to the described device. However, differences cannot be excluded completely. Therefore we cannot guarantee full conformity. All information of this manual are continuously checked and necessary corrections are included to the following editions. Technical modifications are reserved. Additionally all claims are subject to the latest "General Terms of Delivery for Products and Services of the Electrical Industry (ZVEI)"

1.4 Standards and guidelines

Conform to EMVG 2004/108/EG
CE-conformity EN 61326-1 : 2007 (class B, table 3)

2 Product description

Configuration tool for configuring temperature sensors of type GTL with integrated transducer.

2.1 Scope of supply

- USB interface adapter
- Connection cable for M12-plug
- Connection cable with loose ends
- Connection cable with alligator clips
- CD with driver and configuration software "GTL Configurator"
- Operating manual
- possibly further documents

2.2 Functional principle

The GTL - Configuration adapter is connected to a Computer via USB interface.

Suitable connection cables for all 3 possible device types are provided to connect the GTL to the adapter.

The configuration software can read-out and change the configuration data of the GTL via the adapter.

3 Assembly and installation

3.1 System requirements

Supported system architectures: x86,
x64

Supported operating systems: Microsoft Windows XP
Microsoft Windows Server 2003
Windows Vista
Windows Server 2008
Windows 7

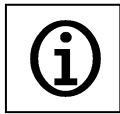
Hardware requirements:

- 620 MB free hard disk space
- 1024 MB main memory
- Minimum: 400 MHz CPU, 800x600 8-bit color
- Recommended: 1.0 GHz or more CPU, 1024x768 32-bit color
- free USB 2.0 interface

Software requirements:

- Microsoft .NET Framework 3.5 (SP1)
- Silicon Labs CP210x USB to UART Bridge device driver version 6.3.0.0 or later

3.2 Installation GTL - Configurator



Do not plug-in the GTL - Configuration adapter until the installation has ended successfully.

You need a user account with administrator rights to install the software. If you don't have that rights please switch user or ask your system administrator.

The USB driver is automatically installed or updated by the GTL Configurator. If the installation program only finds outdated drivers or no driver at all a selection for the driver installation is displayed. The program needs the Microsoft.NET Framework 3.5 (SP1) and installs it automatically from the CD if it isn't already installed.

- Start the installation by double-clicking "GTL Configurator Setup __.exe".
- Follow the instructions.

3.3 Electrical installation



The device may only be installed by a electrically skilled person. The national and international regulations for installation of electrical systems of the particular country of operation apply.

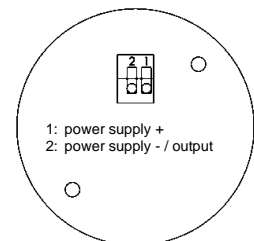


The connection cable with loose ends or alligator clips must be connected first to the transducer. After that it can be connected to the adapter.

Connect the suitable connection cable to the transducer:

M12 Connect the socket of the connection cable to the M12-plug of the temperature transducer

Loose ends Connect wires to the terminals of the transducer:
1 ⇔ brown wire
2 ⇔ white wire

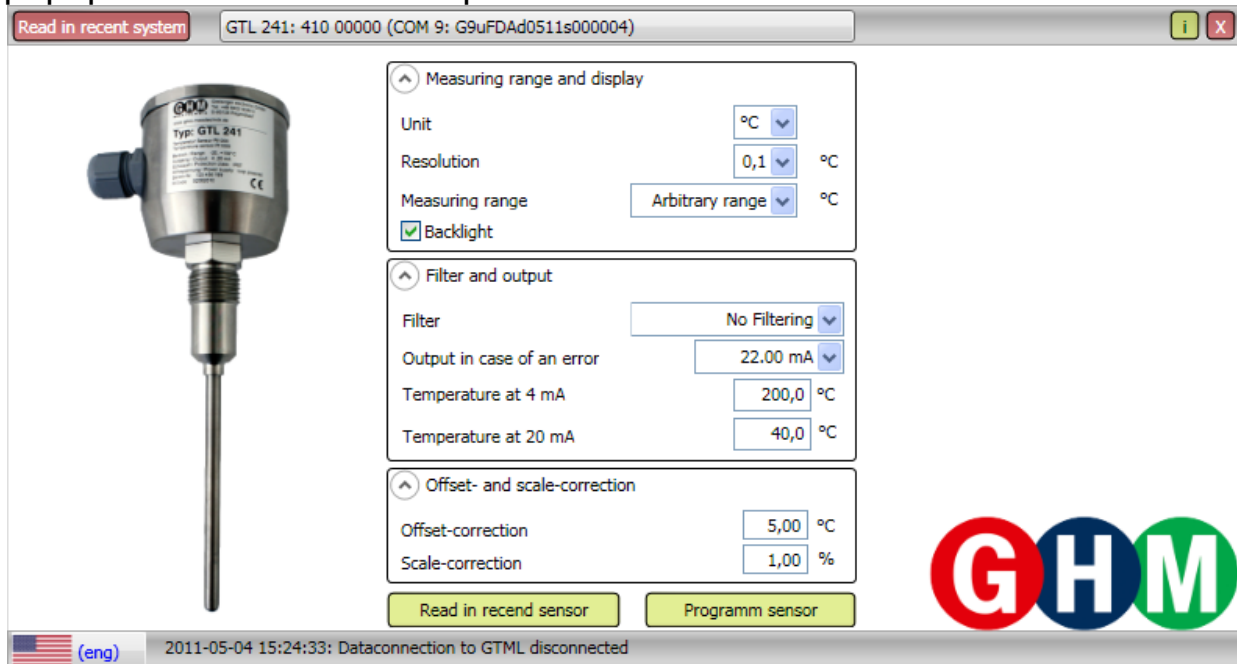


Alligator clips Fix alligator clips to the wires of the transducer's connection cable:
red clip ⇔ brown or blue wire
black clip ⇔ white wire

b.) Connect the cable to the USB adapter.

4 Operation of the software

The software can be intuitively operated. Any error or misentry causes a popup with information and possible solutions.



Possible languages of the user interface are English, Czech and German. The language can be changed without program restart by clicking on the flag symbol in the lower left corner of the program window.

After program start the whole system is checked and all transducers connected to a GTL - Configuration adapter are read-out. You can change between the connected transducers by means of the central button at the top of the window. Depending on the used transducers some fields may be inactive and cannot be set.

4.1 GTL transducer settings

4.1.1 Measuring range and display

- Unit: choose between °C and °F
- Resolution: A measured value of 10 °C (°F) is displayed as 10 if "1" is set and if "0.1" is set as 10.0.
The resolution is "0.1" and cannot be changed if the GTL transducer has no display.
- Measuring range: You can choose between several predefined measuring ranges. Choose "Arbitrary range" to set the range on your own via the fields "Temperature at 4 mA" and "Temperature at 20 mA". The range length must be > 50 °C (or > 90 °F)
- Backlight: If the transducer has a display and background illumination you can switch it on and off with this field.

4.1.2 Filter and output

- Filter: You can choose between several filter speeds.
- Output in case of an error: You can choose whether the output should be set to > 20 mA (approx. 22 mA) or < 4 mA (approx. 3.75 mA) in case of a detected error (i.e. measured value out of measuring range)
- Temperature at 4 mA: Lower measuring range limit. This field is only active if "Measuring range" is set to "Arbitrary range". Acceptable values are from -20.0 ... 200.0 °C (-4.0 ... 392.0 °F)
- Temperature at 20 mA: Upper measuring range limit. This field is only active if "Measuring range" is set to "Arbitrary range". Acceptable values are from -20.0 ... 200.0 °C (-4.0 ... 392.0 °F)
- Tube wall correction: A setting of the parameter „Tube wall correction“ is available if the transducer supports „Tube wall correction“. WLP10S, silicone thermal conductance paste is used for the calculation.

4.1.3 Offset- and scale-correction

Sensor tolerances and/or deviations due to the measuring arrangement can be corrected with the offset and scale value.



Incorrect values for offset and scale result in faulty measuring values! You should change these values only if you are absolutely sure about the adjustment.

- Offset-correction: Adds an offset to the measured temperature value. Acceptable values are from -5.0 ... 5.0 °C (-9.0 ... 9.0 °F)
- Scale-correction: Changes the slope of the sensor curve. Acceptable values are from -10.0 ... 10.0 %

4.2 Warning messages of the software

- | | |
|---|--|
| Transmission error: sensor module not responding (Found no GTL - Configuration adapter) | No GTL - Configuration adapter is found. Check the correct installation of the USB driver and the right connection of the GTL - Configuration adapter.
In very few cases it is necessary to deactivate the energy-saving policy of your computer. |
| Transmission error: sensor module not responding (Found no GTL sensors) | No sensor is found at the GTL - Configuration adapter
Plug-in a GTL sensor with integrated transducer, check the cable connection |

to the sensor.

5 Specifications USB adapter

Connections:

Computer:	standard USB-plug (type A)
GTL:	2-pole screw / clamp terminal, RM 3.81 (max. cross section: 1.5 mm ²)

GTL connection data:

Max. load:	20 mA
Transfer rate:	4800 Baud
Short-circuit strength:	short-circuit proof for short time
Insulation voltage:	500 V DC

Power supply:

no external supply required (USB port powered)	
Current consumption:	max. 300 mA
Working conditions:	-25 ... +50 °C
Storage temperature:	-25 ... +70 °C

Housing:

Dimensions:	56 x 31 x 24 mm (L x W x H)
Cable length:	30 cm
Weight:	40 g

6 Return



Statutory regulations to protect environment and our employees demand that it must be possible to handle returned devices that have been in contact with liquids without any danger to persons or environment.

Therefore, we ask you to take the following regulations into account if you have to send a device back for inspection or repair:

You can download a returns form from our homepage at "Download" -> "Repair / Service".

The repair can be carried out fast and without queries if:

- each device has a filled returns form.
- the device is cleaned and a adequate package is used that prevents damaging to the device.
- the filled form and (as the case may be) a material safety data sheet of the measured medium is fixed outside to the package.

7 Disposal notes



Material separation and recycling of device components has to be considered at the disposal. Currently applicable regulations and rules must be observed.

■ This device must not be disposed as residual waste. To dispose this device, please send it directly to us (adequately stamped) together with a filled returns form (see chapter 6). We will dispose it appropriately and environmentally friendly.

8 Troubleshooting

8.1 USB-Driver

8.1.1 Driver update not successful (x64 edition)

In some cases on 64 bit windows systems (e.g. Windows XP x64 Edition) it may happen, that the existing drivers of the known devices are not updated.

In this case connect the GTL – Configuration adapter and open the “Device Manager” as administrator. In “Ports (COM & LPT)” right click the corresponding „Silicon Labs CP210x USB to UART Bridge (COMxx)“ device. In the context menu select “Properties” and open the tab “Driver” in the new window. Press the button “Uninstall” and activate “delete driver from this Computer”.

If then a manual select of the driver position is needed, the folder with the driver information is found in the GTL Configurator folder under “SiLabs CP210x V” followed by the version (e.g. “SiLabs CP210x V6.5” here always select the newest one).

8.1.2 GTL – Configuration adapter or driver not found

The Driver files are copied by the GTL Configurator Setup to the installation folder, under “SiLabs CP210x V” followed by the version (e.g. “SiLabs CP210x V6.5”). If this directory does not exist run the setup again.

Now connect the GTL – Configuration adapter and open the “Device Manager” as administrator. Now a device exclamation mark should be shown. Normally it can be found under “Ports (COM & LPT)” and its name is „Silicon Labs CP210x USB to UART Bridge“. Right click the device and select “Properties” in the context menu and open the tab “Driver” in the new window.

Here click the button „Update Driver“, In the “Hardware Update Wizard” check “Install from a list or specific location (Advanced)” and press “next”. Then only check “Include this location in the search” and press „Browse“. In the new window select the driver position press “OK”, then “Next” and follow the instructions on the screen.

8.2 Windows Settings

8.2.1 GTL connected to the Computer is always turned off

The reason for this are the computer's energy saving options. For saving energy the computer can turn off the GTL – Configuration adapter. To prevent this, connect the GTL – Configuration adapter and open the "Device Manager" as administrator. In "Ports (COM & LPT)" right click the corresponding „Silicon Labs CP210x USB to UART Bridge (COMxx)“ device. In the context menu select "Properties" and open the tab „Power Management“ in the new window. Here deselect „Allow the computer to turn off device to save power“.



EC – Declaration of Conformity

For the following identified products

GTL - Configuration adapter

will certified herewith, that the device corresponds to the essential protection ratings established in the Regulations of the Council for the Approximation of Legislation for the member countries regarding electromagnetic compatibility (2004/108/EG) and the low voltage directives (2006/95/EG).

The conformity to EMC are verified under observance of following standards:

EN 61326-1 : 2006 (class B, table 3)

This declaration is responsible for the manufacturer

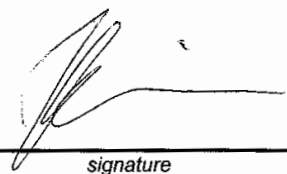
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Regenstauf
place

27.06.2011
date


signature

9 Legal notice

Managing director: Günther Oehler

Place of fulfillment and place of jurisdiction: Regenstauf

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