

# Operating Instructions

## USB data logger

### for Testomat<sup>®</sup> 808

USB data logger for connection to the  
Testomat<sup>®</sup> 808 current interface



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## Important safety information

- Please read these operating instructions carefully and completely prior to working with the instrument.
- Ensure that the operating instructions are always available for all users.
- Always pass the data logger on to a third party together with these operating instructions.
- Also observe the respective operating instructions of the Testomat<sup>®</sup> 808 instrument! For further information, please visit <http://www.heyl.de>.

### Intended use

This data logger for the Testomat<sup>®</sup> 808 allows all measurements and messages issued by the Testomat<sup>®</sup> 808 unit using its current interface to be stored, downloaded and displayed on a PC via a USB port. A software program is provided for setting up the data logger and for downloading the data.

Only a browser is required to display the data.

- Always adhere to the performance limits stated in the section entitled “Technical data”.

To ensure correct and intended usage, always read and understand these instructions, especially the section entitled “Important safety information”, prior to use.

The instrument is not used as intended if

- it is used in areas not specified in these instructions.
- it is used in conditions which do not correspond to the ones described in these instructions.

### Qualification of the staff

Assembly and commissioning of the device

- requires basic electrical knowledge
- PC knowledge

Assembly and commissioning should therefore only be carried out by a specialist or by an authorised individual supervised by a specialist.

A specialist is someone who due to his/her technical training, know-how and experience as well as knowledge of relevant regulations can assess assigned tasks, recognise potential hazards and ensure appropriate safety measures. A specialist should always adhere to the relevant technical regulations.

## Warning notices in these instructions

The warning notices in these instructions warn the user about potential dangers to individuals and property resulting from incorrect handling of the instrument. The warning notices are structured as follows:



**SIGNAL WORD!**

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### Description of the type or source of danger

Description of the consequences resulting from non-observance

- Preventive measures. Always adhere to these preventive measures.
- 



“**DANGER**” indicates an immediate hazardous situation which, if not avoided, will result in death or serious injury.



“**WARNING**” indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



“**CAUTION**” indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injuries or property damage.



“**Note**” indicates important information. If this information is not observed, it may result in an undesirable result or state.

## Further documents

This data logger is an optional accessory for Testomat<sup>®</sup> 808. You should therefore also consult the user manual for the Testomat<sup>®</sup> 808 unit.

# Pay particular attention to

## General instructions



- Adhere to national health and safety regulations as well as environmental protection regulations in the country of use and at the installation site.
- Do not modify or tamper with the instrument.
- Do not carry out any actions at the instrument which are not described in these instructions; failure to adhere to these instructions will negatively affect any warranty claims that you make thereafter.
- Trouble-free operation of the data logger is only guaranteed in conjunction with Testomat<sup>®</sup> 808 instruments!

## Installation



- Always disconnect the relevant plant parts and the Testomat<sup>®</sup> 808 instrument before installing the data logger. Secure the plant against reconnection.
- When assembling the unit, do not touch the components or contacts of the circuit board.
- Always observe technical data and ambient parameters.

## De-installation

- The Testomat<sup>®</sup> 808 instrument must be isolated from all possible sources of supply before disconnecting the data logger from the socket. Secure the plant against reconnection.

## Disposal

- Dispose of the data logger in accordance with national regulations.

## Scope of delivery

- 1 USB data logger for Testomat<sup>®</sup> 808
- 1 lithium battery, 3.6V, type ER14250
- 1 USB flash drive containing software and manual
- 1 self-adhesive holder for the data logger
- 1 USB extension cable
- 1 package information leaflet

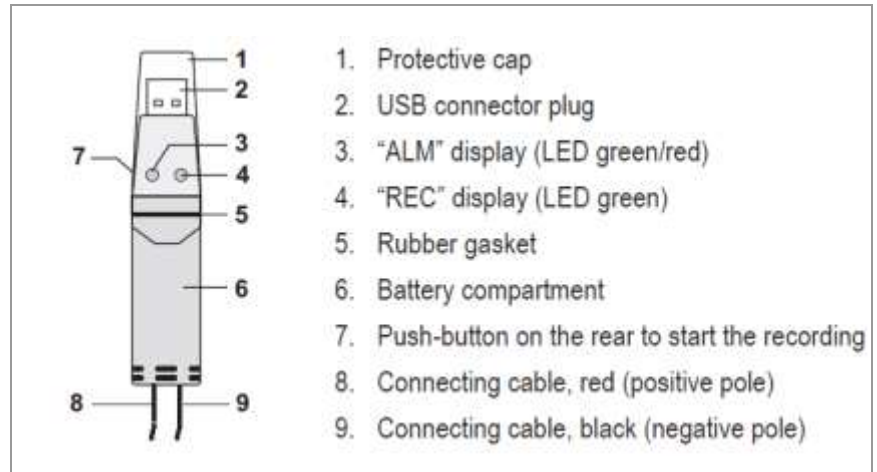
## Performance specifications

The data logger stores the measurement values of the 20mA current interface at regular intervals. Data can be accessed via the built-in USB port.

- For use in conjunction with Testomat<sup>®</sup> 808
- Storage capacity for up to 32,000 values. With a typical interval pause for the Testomat<sup>®</sup> 808 of 15 minutes, storage capacity for measurement data is sufficient for over 10 months.
- Battery life is over 1 year.
- Access to measured data via USB port
- The supplied software runs on 32 or 64-bit Windows 7 and newer versions
- Drivers for the data logger for the above operating systems
- Measurement data is stored in tabulated form in HTML format with time stamp and value; it can be printed out directly via a browser.
- Files are saved in "CSV" format and can be further processed using spreadsheet software, e.g. Microsoft Excel.

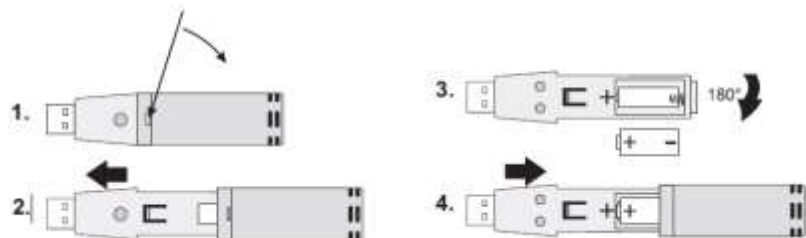
# Installation

## Overview of controls and displays



To read out the data or to replace the battery, remove the protective cap (1). At all other times the cap should be fitted to protect the unit from fluids.

## Fitting or replacing the battery



1. Using a pointed object (e.g. small screwdriver), open the housing by pushing in the direction of the arrow.

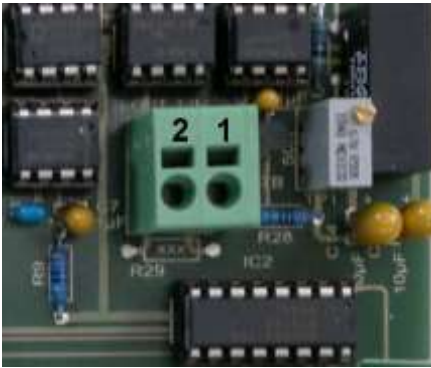
2. Pull the data logger out of the housing.

3. Turn the data logger over and place the battery in the battery compartment. Observe the correct polarity. The two LEDs light briefly for confirmation in sequence (green, yellow, green).

4. Insert the data logger back into housing and press until it clicks home. Now the data logger is ready for programming.

## Connecting to the Testomat unit

- Use the Testomat® 808 manual as reference. This describes all the terminals.

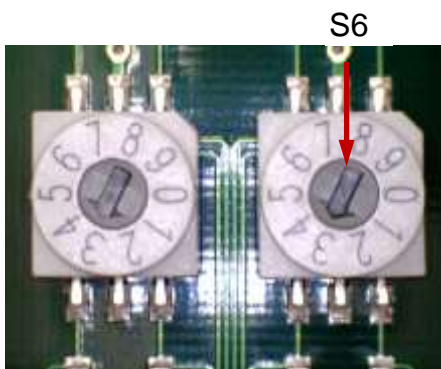


- Open the upper housing door, run the cables through the cable grommet into the housing and connect the data logger cables to the 2-pin plug for the current interface on the main board.

The wires of the data logger cable are labelled with the digits 1 and 2 printed on them. Connect according to the image on the left:

- Wire 2 to I-OUT (left pin, +18V)
- Wire 1 to I-IN (right pin, voltage varying with measurement value)

- Make a note of the setting of the function switch S6 (controller board, test interval pause setting) in the Testomat® 808.



This setting is important for the correct configuration of the data logger as it ensures that the sampling interval of the logger is always shorter than the interval between measurements of the Testomat® 808. This is the only way to ensure that no measurements are lost.

- In case there is no convenient place for storing the data logger, a self-adhesive holder is provided. This can be affixed to the Testomat® 808, on the left-hand side of the housing below the cover, or beside the dosing pump. Alternatively it can be fitted elsewhere with screws.
- In order to retrieve the data without having to remove the data logger, we recommend that you use the USB extension cable provided for connecting to the PC.



## Software installation

*Requirement: PC with 2 USB ports for USB flash card and USB data logger*

Insert the USB flash card provided into a free USB port on the PC. Wait for the system to assign a drive letter (in this example E:) and then:



- Open Explorer in Windows
- Switch to the drive letter assigned to the new device.
- Now double-click on **logger\_en.bat**
- A menu appears offering various functions:  
**D**atalogger (c)onfigure (r)ead, (H)elp, (D)river in-  
**s**tall?

Select 'D' for Driver Install and confirm with the Enter key. All entries must be confirmed with the Enter key.



- Now the Device Driver Installation wizard starts.
- Press Continue when prompted until installation is complete.
- Perform the following installation of the Visual Studio Runtime.



- Now connect the data logger, using the extension cable if appropriate. The operating system detects the device. There may be some delay before the message appears: 'Your hardware is ready for use.'

Software installation is now complete.




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The USB data logger is not a USB storage device; rather, it forms a serial data connection (an active data logger is shown in the Windows Device Manager as a 'USBXpress Device' in the 'USB Devices' category).

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### NOTE

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If you would prefer to install the software directly on the PC, copy the entire contents of the USB flash drive into a folder of your choice.

Do not try to copy the data to C:\Programs or to C:\Program Files(x86), however, since in Windows versions from Vista onwards, program folders have a special write protection.

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## Using the data logger

All functions are carried out by executing `logger_d.bat`:

- Insert the USB data logger into a free USB port on the PC.
- Insert the USB flash card into a free USB port on the PC. Wait for the system to assign a drive letter (in this example E:) and then:
- Open Explorer in Windows
- Switch to the drive letter assigned to the new device.
- Now double-click on `logger_d.bat`  
A menu appears offering various functions:

```
*** HEYL USB DATENLOGGER - TESTOMAT 808 ***
Datalogger (c)onfigure (r)ead, (H)elp, (D)river in-
stall? c
```

To configure the data logger:

- Press C and Enter.  
Now turn to the section [Configuring the Data Logger](#) to continue

To read data from the logger:

- Press R and Enter.  
Now turn to the section [Accessing Data from the Data Logger](#) to continue

To display this document:

- Press H and Enter

For driver installation (see [Software Installation](#)):

- press D and Enter

## Configuring the data logger

Below is an example of how configuration is carried out:

```
*** HEYL USB DATA LOGGER - TESTOMAT 808 ***
Datalogger (c)onfigure (r)ead, (H)elp, (D)river install?c
```

Configure data logger:

```
Input setting of switch S6 in Testomat 808 (0-9) or sample
interval in seconds: 0
```

```
New name instead of 'T808Logger' (enter new name or '-')?-
Old name persists
```

```
Start (i)mmediately or after (k)eypress?i
```

Settings are:

- Data logger's name: -n T808Logger
- Sample interval[s]: 120

- **Start immediately**

These entries are explained below:

- **Input setting of switch S6:** Position of rotary switch S6, as described in section Connecting to the Testomat. Enter directly the value set on the switch, between 0 and 9. This automatically selects the measurement interval as per the following table:

Position	Interval pause	Measurement interval
0	0 min.	120 s
1	5 min.	360 s
2	10 min.	600 s
3	15 min.	900 s
4	20 min.	1200 s
5	25 min.	1620 s
6	30 min.	1800 s
7	40 min.	2400 s
8	50 min.	3000 s
9	60 min.	3600 s

Any number greater than 9 is read as a direct specification of the measurement interval. Measurement intervals can be in the range from 10 s to 86400 s.

- **New name instead of 'T808Logger':** Lets you give a name in text form to the data logger to distinguish it from other loggers. The name may be a maximum of 12 characters. If a minus sign (-) is entered, the name is not changed.
- **Start (i)mmediately or after (k)eypress?:** The data logger can either start measuring immediately or can be started by pressing the red button on the logger unit.

After this the selected settings are displayed again and the data logger configuration program automatically executed (T808Log.exe or T808LogX64.exe).

## Accessing data from the USB data logger

The data access function is only available when the data logger is connected. To begin data access select A from the menu:

```
*** HEYL USB DATA LOGGER - TESTOMAT 808 ***  
Datalogger (c)onfigure (r)ead, (H)elp, (D)river install? r
```

Now the data reading process begins directly. Two files are generated from the measurement data:

- One file is created with a tabular protocol so that it can be viewed and printed by any browser. The file name is formed by the following schema:

*<Data logger name>\_<YYMMDD>\_<HHMMSS>.htm*

Example:

Data logger name: *T808Logger*

Data logging started: *10/02/2013, 09:04:05*

Resultant file name: *T808Logger\_131002\_090405.htm*

By making the appropriate settings in advance, protocols can be automatically sorted by data logger name and data logging time - rather than each overwriting the next.

Open Explorer in Windows and double-click the file name. This causes the data content to be displayed in a web browser. This protocol can then be printed out for archiving purposes.

- Another file is created with a name in the same schema as above, in CSV format (*T808Logger\_131002\_090405.csv*). These data are separated by commas and are easy to import into Office and similar packages (LibreOffice/OpenOffice Calc, Microsoft Excel).

### NOTE

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Data can be read out from the data logger at any time. This however causes measurement to stop. Thus the data logger must be reconfigured before each new measurement procedure, as otherwise the internal memory will not be erased - and so the *same* data will appear each time an attempt to read it is made.

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## Troubleshooting

- USB device not recognised  
Operating systems from Windows Vista onwards can automatically search the internet for drivers for new hardware. If the software installation has not been entirely completed, it may be that the wrong driver was installed for the data logger. With the logger connected, check that the device appears within the USB Devices section of My Computer as 'USBXpress Device' and not as 'anemobiograph Data Logger'.
- Settings cannot be made to data logger: Please check the value ranges of the parameters set:
  - Name length 12 characters maximum
  - Measurement interval in range 0-9 (as per switch setting) OR 10 - 86400 (in seconds)
- Errors in downloading data: Check whether the new file already exists and is write-protected. Do not try to copy files to C:\Programs or to C:\Program Files(x86), however, since in Windows versions from Vista onwards, program folders have a special write protection.
- Data logger does not log data  
Check the battery voltage ( $\geq 3.0V$ ). If the data logger is connected to the PC, it will be powered from this.

Should problems or questions arise while operating the data logger which are not described in these operating instructions and/or cannot be solved, please contact our technical hotline.

Tel.: +49 (0)5121 7609-0

Fax: +49 (0)5121 7609-44

E-Mail: [info@heyl.de](mailto:info@heyl.de)

Try to identify the problem as accurately as possible and record the actions and conditions under which it occurred. A precise definition of the problem allows us to provide you with quick and effective help.

## Disassembly



### Risk of electric shocks

If the power supply is not disconnected prior to disassembly, it may result in personal injuries, destruction of the product or damage to plant parts.

### Please proceed as follows:

- Disconnect the Testomat 808<sup>®</sup> unit from any power
- Unplug the measurement cable from the unit
- Remove the data logger
- Pack the data logger and accessories in their original packaging for shipment

## Accessories

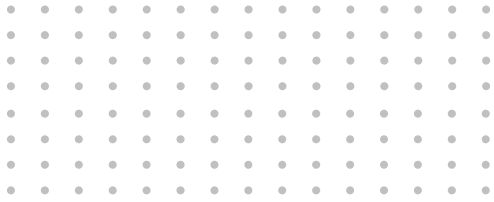
Type	Order no.
Data logger Testomat 808 <sup>®</sup>	00100493
Lithium battery 3,6V ½AA ER14250	00033013

## Technical data

We reserve the right to make technical changes without notice in the interest of constantly improving our products!

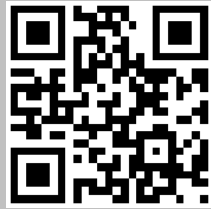
<b>Power supply</b>	3.6 V lithium battery (type ER14250 or equivalent), battery life 1 year at 5 s measurement interval
<b>Interface</b>	USB2.0 full speed
<b>Operating Environment:</b>	0 – 50°C and 0 – 80% relative humidity (non-condensing)
<b>Dimensions:</b>	130 x 30 x 25 mm (L x W x H)
<b>Weight:</b>	approx. 20g
<b>Measurement range:</b>	4-20 mA with 10 µA resolution ±0.5% precision Internal resistance 160Ω





Gebrüder Heyl  
Analysentechnik GmbH & Co. KG  
Orleansstraße 75b  
D 31135 Hildesheim  
[www.heyhl.de](http://www.heyhl.de)

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