GB/UK

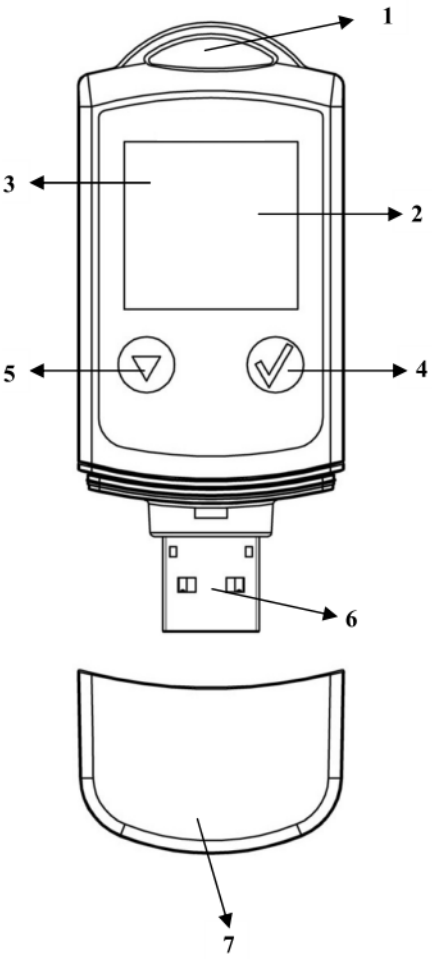
Operating manual

Data logger

EBI 300 - USB

292055

Table of Contents



Overview

The EBI 300 data logger is a battery powered temperature measurement and recording instrument for monitoring temperature sensitive products during transportation.

The data logger has a USB-interface for connecting directly to a computer or USB-printer.

When connecting the data logger to a USB-port a PDF file with a chart of all recorded measurement values and the alarm status (limit violations) will be automatically generated. The PDF file can be opened, printed or archived without any other additional software.

The USB connection can also be used to read out and program the data logger with Winlog software.

1 Eye for mounting
2 Display (LCD)
3 LED
4 Start button
5 Menu button
6 USB-connector / Connector for external probes
7 Protective cap

Safety Instructions

Do not use the device in explosive areas. Danger of death!

Do not use the device in environment hotter than 85℃!
The lithium battery may explode!

Do not expose the unit to microwave radiation. The lithium battery may explode!

To ensure that the data logger is water tight, the protective cap must be fitted or an external probe must be connected.

Unpacking / Package Contents

After receipt of delivery, please check the equipment for any damage. Furthermore, please verify that the delivery corresponds to your order.

Scope of Delivery

The delivery includes:

- Data logger EBI 300
- Operating manual

The package may also include various accessories.

Should you have a complaint for any reason, please do not hesitate to contact us. You will find our contact details on the back of this manual.

First Start

To switch on the data logger press the key ▽

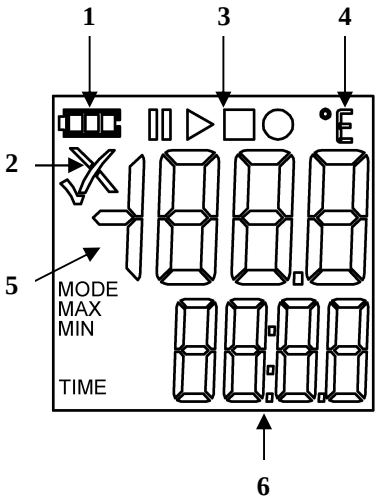
Visit our website:

www.ebi300.com

Download the free software **Winlog.basic** for programming and read out.

Additional you can create programming profiles on the website and program the data logger with **QuickStart** without the need to install the software.

To set the correct date and time-zone, the data logger should be programmed with Winlog or Quickstart software before first use.



Display

1 Battery indicator

2 Alarm indicator

3 Record indicator

4 Unit

5 Current reading

6 Runtime / Menu / Channel

1 Battery indicator


Full battery


Battery OK


Low battery


Empty battery, replace

2 Alarm indicator

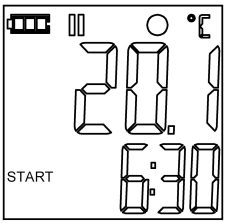

Measurement values are within programmed limits.


Measurement exceeded the programmed limits. If activated during programming a red LED is flashing.

Recording Indicators

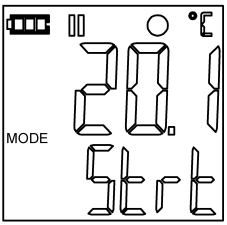
The current state of the recording is indicated by the following symbols:

- ▷ Recording started
- ☐ Recording stopped
- ○ Recording activated
- || Recording paused



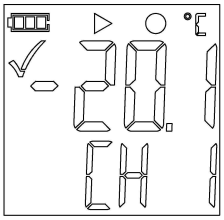
State 1:

The data logger is in the “Logging at Start Time” mode, with a start time at a future date. The remaining time until start of recording is shown in the bottom line of the LCD.



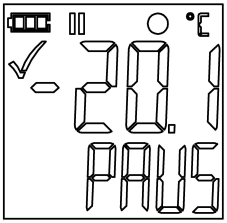
State 2:

The data logger is in the “Logging at Key Press” mode, but the start key has not been not pressed yet.



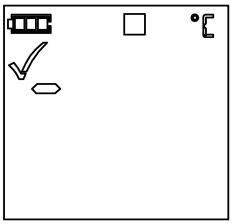
State 3:

The data logger is recording.
The channel whose measurement data is currently displayed is shown in the second line.



State 4:

The data logger is recording, alarm is suspended.



State 5:

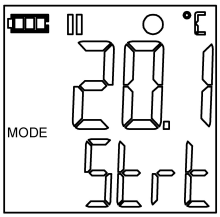
Recording is stopped. In this mode no measurement data will be shown in the display.

Funktion-Menu

If the data logger is not recording, only *Start Recording* is available.

Press the button ▽ to enter the function menu and to select the menu functions.

To activate a user menu function press the button ✓ and hold it for three seconds



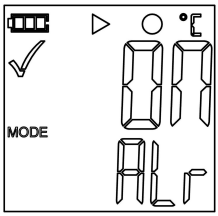
1. Start Recording

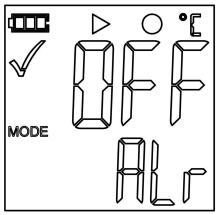
To start the recording if the data logger is in “Start at key press” mode or to restart a recording after readout, select ✓.

If recording is stopped and data logger is in mode “Start upon key pressed” you can start a new recording after read out.

If recording is not active, this is the only available menu function.

▽





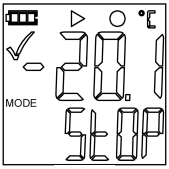
▽

2. Pause Alarm

Press ✓ to stop the alarm – e.g. to prevent false alarms when reading out the data logger during a measurement.

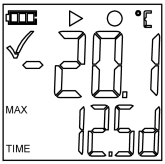
The recording of the measured values continues, however, they are not taken over in die display of min/max values.

To activate the alarm again, choose this function again and confirm with ✓.



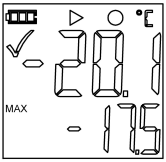
3. Stop Recording

Select this function to stop recording if the data logger is programmed for manual stop. Press button ✓.



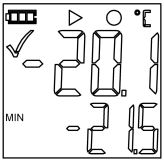
4. Remaining Recording Time

Shows the remaining time until end of recording.



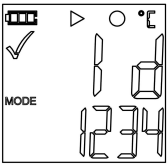
5. Max

Shows the highest reading of the displayed channel since start of recording.



6. Min

Shows the lowest reading of the displayed channel since start of recording.



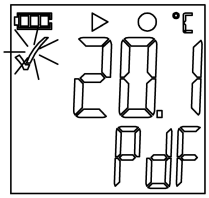
7. ID

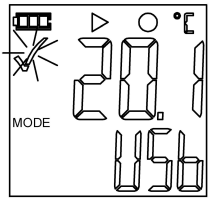
Shows the ID of the programming profile.

Reading out the data logger

There are two ways to read out the recorded data:

- Generating a PDF-File
- Read out with Winlog software





Generating a PDF-File

As soon as the data logger is connected to a USB-slot, a PDF file with all recorded data in chart and an overview of alarms is generated automatically. During PDF generation *„PDF“* appears on the display When the PDF file is ready *„USB“* is shown on the LCD.

Depending on the number of stored measurements, generating the PDF-file might take up to 30 seconds

The data logger acts as a mass storage device providing a volume for the computer. On this volume the PDF file is stored and can be opened, printed or copied to another volume for archiving.

When the data logger is connected to an USB-printer with PDF print facility, the PDF-file can be printed directly without the need for a computer.

As soon as the data logger is re-programmed, the PDF file on the data logger will be deleted.

Readout with Winlog Software

When the data logger is connected to a USB slot it can be read out with Winlog.basic, Winlog.light or Winlog.pro software.

For more detailed information about data logger readout with Winlog software please refer to the corresponding documentation

Programming data logger

To program the data logger – sample rate, logging mode, limits etc. – connect the data logger to a USB interface of your PC.

You can use Winlog.basic, Winlog.light, Winlog.pro or QuickStart to program the data logger.

For more detailed information about data logger programming with Winlog software please refer to the corresponding documentation.

External Probes

The following external probes can be connected, in order to do a core measurement, or to enhance the measurement range.

Core temperature sensor for EBI 300

Code-No.: **292056**

Measuring range	-30 °C…+70 °C
Accuracy	+/-0,5 °C
Protection class	IP65
Sensor	NTC
Cable length	1 m
Weight	0,03 kg

Humidity measuring unit for EBI 300

Code-No.: **292057**

Humidity measuring range	0% -100% rH
Accuracy humidity	+/-3% rH
Temp. measuring range	0 °C... +70 °C
Accuracy temperature	+/-0,5°C
Sensor	Capacitive humidity sensor
Protection class	IP20
Weight	0,01 kg

Prepare the data logger for using external probes

Activate the option “External Sensor” when programming the data logger with Winlog-software, or web-configuration.

Eventually select the sensor. The internal temperature channel can be activated additionally. When being activated, it´s always channel 1.

If an external sensor is being selected during programming, the measurement starts as soon as this sensor is attached to the data logger.

A running measurement will be stopped as soon as the external probe is detached.

Connecting the probe

If the data logger was programmed on using an external sensor, but there is no probe connected, the device will display “NC” (not connected).

Connect the external probe to the USB-plug of the data logger. As soon as the external sensor is connected, the data logger displays the current temperature.

The data logger EBI 300-USB (292055) must be operated only with the core temperature sensor (292056) and the hygrometer (292057). If other sensor is connected, the display shows NA (not applicable) and measured values are not recorded.

Trouble Shooting

What to do if:

The computer doesn’t recognize the data logger:

Check, whether the data logger is displaying “USb” after plug in.
If so, use another USB-port.
Check if the usage of USB-mass-storage-devices is enabled on your computer.

No PDF-file is generated:

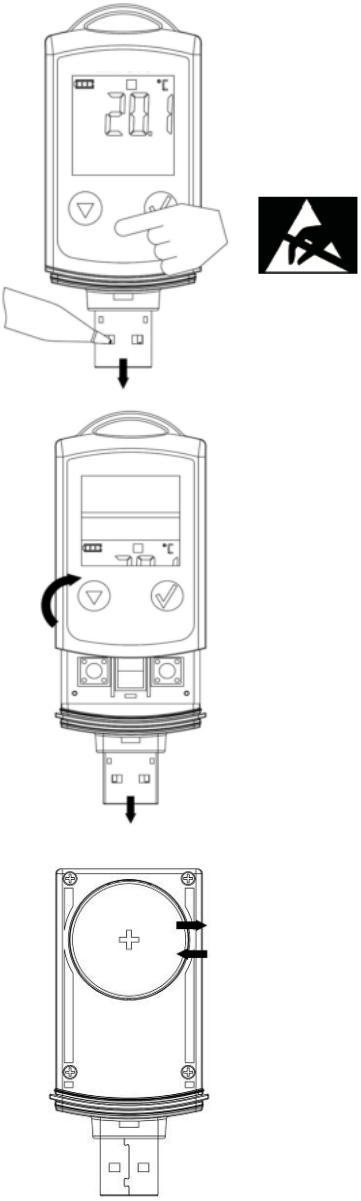
Check whether the data logger recognized by your computer (see above).

Check, whether the PC is displaying a new drive.

If a new drive is mounted but no PDF-file is available, check if the data logger has been started
Make sure, that a PDF-reader is installed on your computer.

Data logger reset:

The data logger will be reset, if you press the left button and hold it down for 10 seconds.



Battery Replacement

In order to replace the lithium battery, the unit must be opened. Please proceed as follows:

Prevent electrostatic discharge during battery replacement. Electrostatic discharge may destroy the unit!

Remove the protective cap and place the data logger on an even base. Release the locking by pushing the area below the two buttons. Insert a ball pen into one of the two notches of the USB connector and pull out the lower part of the housing while still pressing on the locking.

Remove the discharged battery and replace it with a new one, maintaining the correct polarity.

Use only suitable batteries to ensure the operation of the data logger over the whole temperature range.

Please dispose of the spent battery in an environmentally-friendly manner!

Close the data logger by inserting the lower part into the housing until it is locked.

During battery replacement, no data will be lost. After replacing battery, recording will be continued. If there is a longer period without power, the internal clock of the data logger must be set by reprogramming.

Cleaning and Maintenance

Please use a damp cloth to clean the data logger.

Do not use a solvent, such as acetone, in order to avoid corrosion of the plastic.

Calibration service

The device features high measurement accuracy. In order to maintain it, the device should be calibrated **once a year**. To this end, we offer a calibration service.

To use this service, please contact our customer service. The relevant contact details can be found at the end of this operating manual.

Disposal

If the device has been rendered useless, you must dispose of it properly and in an environmentally friendly manner.

Under no circumstances dispose of the device with the domestic refuse. Return it to the manufacturer.

The batteries take to a designated collection site for proper disposal.

Technical Data

Data logger EBI 300 - USB

Resolution	0.1℃
Storage temperature	-40 ℃…+85 ℃
Housing material	Polycarbonate, food safe
Dimensions	W 33 x D 15 x H 80 mm
Weight incl. battery	0,03 kg
IP-rating	IP 65
Measurement range	-30 ℃…+60 ℃
Accuracy	+/-0.5 ℃
Sensor type	NTC
Channels	1
Data memory	40.000 readings
Battery runtime	up to 2 years
Sample rate	1 min - 24 h

Code-No.: **292055**

Battery Runtime

Following operating-times are valid for a ambient temperature of 25℃ and disabled alarm-LED

Internal Sensor

Sample rate	LCD on	LCD off
1hour	24 months	>24 months
1 minute	24 months	>24 months
1 second	3 months	3 months

Approvals

The conformity certificate confirms that this product complies to CE guidelines 2004/108 EG.

The product **EBI 300** complies to the guidelines in accordance with EN 12830.

Suitability:

S (Storage), **T** (Transport)

Location:

C (Food storage and distribution systems)

Accuracy classification:

1, for measurement of the air temperature and of the internal product temperature.

Measurement range:

-30 ℃... +60 ℃

In accordance with DIN EN 12830 the device is subject to regular (annual) inspections as per DIN EN 13486.

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