Operating manual for

E25.0.01.6C-09

EASYLOG 40K, EASYLOG 40KH and EASYLOG 40KH-E

General:

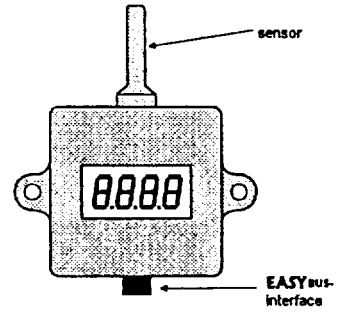
The loggers **EASYLOG 40K...** are especially designed for long-time monitoring of temperatures. Both the low power consumption and the high battery capacity ensure a long recording time. The last 48000 measuring values can be stored in the memory. In addition the LCD-display constantly indicates both the temperature measured at the moment and the operating status of the logger.

Required accessory:

The **EASYBUS** interface is used to program, start and read out the **EASYLOG 40K..** units.
For this following accessory is required:
- Level converter: RS232 - **EASYBUS** (e.g. EBW1, EBW2, EBW64)
- connecting cable: level converter to **EASYLOG**
- **GSOFT 40K** (Version ≥ 5.0): Windows-Software to start the logger and read out the loggerdata.

Specification:

Measuring range:	-25.0 ... +60.0 °C (**EASYLOG 40K**: with internal sensor) -50.0 ... +150.0 °C (**EASYLOG 40KH**: with external sensor) -50.0 ... +300.0 °C (**EASYLOG 40KH-E**: with external sensor)
Accuracy: (at nominal temperature)	± 0.5°C (**EASYLOG 40KH-E**: ±0.5°C ±0.02% of meas. value)
Resolution: (display and memory):	0.1°C
Sensor:	Pt1000, 2-wire
Display:	10 mm LCD-display
Measuring interval:	2s to 5h
Measuring value memory:	48000 measuring values
Memory type:	*"filling memory"*: Once the memory is filled with data, the recording will automatically be halted. "ring memory": The old data will be overwritten in case of memory overflow.
Battery service life:	depending on measuring cycle set, approx. 6 to 8 years at 15min meas. cycle and nominal temperature. OPTION: double battery service life available
Recording time:	depending on measuring cycle: 500 days at a measuring cycle of 15min
Interface:	**EASYBUS**
Busload:	2 **EASYBUS**-unit´s
Nominal temperature:	25°C
Operating temperature:	-25 to +60°C
Storage temperature:	-30 to +85°C
Housing:	48.5 x 48.5 x 35.5 mm (L x W x D), without sensor and plug ABS housing, transparent screen made of polycarbonate, splash-proof acc. to IP65
EMC:	The unit conforms to EN 50 081-1 and EN 50 082-1 of the EMC-guidelines pursuant to the EMVG (Law regarding electromagnetic compatibility of units).



assignment of **EASYBUS**-interface jack:

Battery service life and recording time

meas. cycle	battery service life	recording time
2 s	approx. 200 days	26.5 hours
1 min	approx. 4-5 years	33 days
15 min	approx. 6-8 years	500 days

Please note: Short measuring cycles result in a reduction of the battery service life. We, therefore, recommend not to unplug the **EASYBUS**-interface. The logger will then be supplied via the interface, thus saving the internal battery.

Advice regarding state of logger upon delivery:

Upon its delivery the logger is in a kind of 'sleeping state': the display does not show anything, the power consumption is at its minimum.
The **EASYLOG** 'wakes up' as soon as it is connected to an **EASYBUS**-level converter (e.g. EBW1) and a communication link with a software has been established. The display jumps back and forth between the current measuring value and 'Stop' and the logger is ready for operation.

EASYLOG:

The **EASYLOG** is equipped with a 10 mm LCD display.

The main purpose of the LCD display is to indicate the temperature. Depending on the operating mode of the **EASYLOG** unit other messages will be displayed as well.

StoP	The **EASYLOG** recording has been "stopped". The logger memory ist empty. The logger is reset an can be restarted.
HALt	The **EASYLOG** recording has been "halted". The stored data can be read. The logger memory is not empty.
12.9	***(Display of temperature. Small arrow in left-hand corner flashing)*** The logger is active. Temperature measurements are carried out at certain intervals. The temperature measured will be stored.
St.dE	The logger is active, but no data are recorded. As soon as the start delay time has expired the logger will start recording in accordance with the starting conditions programmed before ('Start dElay').
St.AL	The logger is active, but no data are recorded. Recording will start as soon as the temperature is within the min. and max. alarm limits ('Start after ALarm').
St.Et	The logger is active, but no data are recorded. Recording will start as soon as the external starting key is plugged in ('Start after External trigger). Please note: After recording has been started the starting key can be removed again.
AL.Lo	The temperature measured is below the min. alarm limit.
AL.HI	The temperature measured has exceeded the max. alarm limit.
bAt	The **EASYLOG** battery is almost empty and needs to be replaced. Please return logger to the manufacturer.
FE 1	The temperature has exceeded the measuring range of the logger.
FE 2	The temperature has fallen below the measuring range of the logger.

⚠ Safety advice:

This unit has been designed, assembled and tested in accordance with the safety regulations for electronic measuring devices.

However, its trouble-free operation and reliability cannot be guaranteed unless the standard safety measures and special safety advices regarding the unit will be adhered to when using the unit.

1. Trouble-free operation and reliability of the unit can only be guaranteed if the unit is not subjected to any other climatic conditions than those stated under "Specification".
   To protect the battery the max. permissible storage and transport temperature of the unit is 85°C
2. Standard regulations for operation and safety for electrical, light and heavy current equipment have to be observed, with particular attention having to be paid to national safety regulations (e.g. VDE 0100).
3. When connecting the logger to other units (e.g. PC) the interconnection has to be designed most thoroughly as internal connections in third-party units (e.g. connection GND with protective earth) may lead to undesired voltage potentials
4. If there is any risk whatsoever involved in running it, the unit has to be switched off immediately and to be marked accordingly to avoid re-starting.
   Operator safety may be at risk if
   - there is visible damage done to the unit
   - the unit is not working as specified
   - the unit has been stored under unsuitable conditions for a longer time.

   In case of doubt, please return unit to manufacturer for repair and/or maintenance.