

Operating manual for EASYLOG 40NS W



General:

The logger **EASYLOG40NS W (4-20mA, 0-20mA, 0-2V or 0-10V)** is especially designed for long-time monitoring of standard signals. 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 value measured at the moment and the operating status of the logger.

Required accessory:

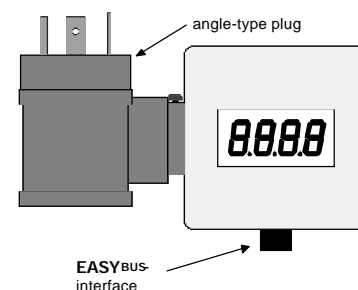
The **EASYBus** interface is used to program, start and read out the **EASYLOG40NS**

For this following accessory is required:

- Level converter: RS232 - **EASYBus** (e.g. EBW1, EBW64)
- connecting cable: level converter to **EASYLog**
- **EBxKonfig**: Software to configurate the **EASYLog** (display range, decimal point, display unit)
- **GSOFT 40K** (version ≥ 5.0): Windows-Software to start the logger and read out the loggerdata.

Specification:

Input signal, meas. range:	4.00 ... 20.00 mA (EASYLOG40NS W - 4-20mA) 0.00 ... 20.00 mA (EASYLOG40NS W - 0-20mA) 0.00 ... 2.00 Volt (EASYLOG40NS W - 0-2V) 0.00 ... 10.00 Volt (EASYLOG40NS W - 0-10V)	
Input resistance:	$R_s = 100 \text{ Ohm}$ (4-20mA, 0-20mA) $R_i > 300 \text{ kOhm}$ (0-2V, 0-10V) (input is not isolated from EASYBus)	
Display range	-1999 to 9999 digits, programmable (recommended display range: < 2000 digit)	
Decimal point:	any position	
Display unit:	programmable, a selection of more than 25 units is given in the software used.	
Resolution:	1 digit (display and storage)	
Accuracy:	$\pm 0.5\%$ (at nominal temperature)	
Display:	10 mm LCD-display	
Interface:	EASYBus	
Busload:	2 EASYBus -device's	
Measuring interval:	2s to 5h	
Meas. value memory:	48000 measuring values	
Type of memory:	<i>"filling memory"</i> : Once the memory is filled with data, the recording will automatically be halted. <i>"ring memory"</i> : 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 and nominal temperature) OPTION: double battery service life available	
Recording time:	depending on measuring cycle set, (500 days at a measuring cycle of 15min)	
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), (with angle-type plug 50,5 x 90 x 39,5 mm) ABS housing, transparent screen made of polycarbonate, splash-proof acc. to IP65	
Electric connection:	(for input signals) angle-type plug in acc. to DIN43650	
EMC:	The device conforms to EN 50 081-1 and EN 50 082-1 of the EMC-guidelines pursuant to the EMVG (Law regarding electromagnetic compatibility of devices).	



assignment of **EASYBus**-interface jack:



typ. 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, this saving the internal battery.

Note regarding state of logger upon delivery:

E25.0.2X.6C-03

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.

Programming of the display range:

The display range, position of decimal point and the display unit can be set by the **EBxKonfig** software. Furthermore, it can be used to read out sensor information (unit type, serial number, address, etc.) and to program the alarm points of the logger.

Adjustment of EASYLOG-connections:

The assignment of the angle-type plug is designed for the most commonly used assignments of the respective input signals. As this is not a standardised assignment, your transmitter assignment may not correspond to the **EASYLOG** assignment.

How to change the assignment of the angle-type plug:

Dismantle the plug by pulling the adaptor inset out of the case, using a screw-driver at the lateral groove.

Change the assignment according to the notes at the respective input signal.

Latch coupling insert in cover. You have a choice between 4 different orientations - each of them spaced 90°.

Please make sure to adjust the connecting cable, if the assignment of the angle-type plug has been changed for the types 4-20mA and 0-20mA.

Put on angle-type plug and connect plugs using the long screw delivered. (Do not forget seals).

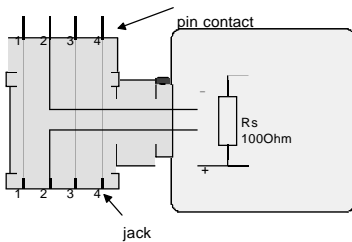
internal assignment of angle-type plug:

table of connections angle-type and jack :

Pin no.:	wire colour-	Inputs		
		4-20mA	0-20mA	0-2V, 0-10V
1	blue	fedded through	fedded through	fedded through (EASYLOG, signal +)
2	red	EASYLOG ($R_s = 100 \text{ Ohm}$)	fedded through	fedded through (EASYLOG, signal -)
3	black	fedded through	EASYLOG ($R_s = 100 \text{ Ohm}$)	fedded through
4	yellow	fedded through	fedded through	fedded through

Input signal: 4-20mA

In the angle-type plug the male contacts 1, 3 and 4 are directly connected 1:1 with the socket. The **EASYLOG** ($R_s=100\text{Ohm}$) is located between the male contact 2 (-) and the jack 2 (+).

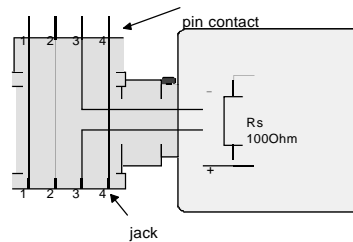


If the 'signal/GND'-line in your transmitter is not assigned to contact 2, please do not forget to adjust the **EASYLOG**-angle-type plug and the external angle-type plug accordingly:

To do so open the **EASYLOG**-angle-type plug and exchange the red wire of contact 2 against the wire of the contact representing the 'signal/GND' in your transmitter. Then exchange and/or rewire the two contacts in the angle-type plug of your connecting cable.

Input signal: 0-20mA

In the angle-type plug the male contacts 1, 2 and 4 are directly connected 1:1 with the socket. The **EASYLOG** ($R_s=100\text{Ohm}$) is located between the male contact 3 (-) and the jack 3 (+).



If the 'signal'-line in your transmitter is not assigned to contact 3, please do not forget to adjust the **EASYLOG**-angle-type plug and the external angle-type plug accordingly:

To do so open the **EASYLOG**-angle-type plug and exchange the black wire of contact 3 against the wire of the contact representing the 'signal' in your transmitter. Then exchange and/or rewire the two contacts in the angle-type plug of your connecting cable.

Input signals: 0-2V, 0-10V

In the angle-type plug the 4 male contacts are directly connected 1:1 with the socket. The **EASYLOG** connection is on contact 1 (signal+) and contact 2 (signal-). If your transmitter assignments for the 'signal+' and 'signal-' are different, please do not forget to adjust male contacts of your angle-type plug accordingly: To do so open the angle-type plug and remove the red and the blue wires entering the housing from the coupling of the angle-type plug. Connect wires with the respective contacts, representing signal + (blue wire) and signal - (red wire) at your transmitter.

Connection advice:

If more than one **EASYBus**-sensor modules are connected at the same **EASYBus**, the input signals of each **EASYBus**-sensor module (e.g. **EASYLOG 40NS...**, **EASYBU 40IMP**, **EBN**) has to be isolated from the others.

The EASYLOG is equipped with a 10 mm LCD display.

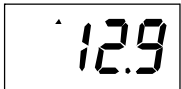
The main purpose of the LCD display is to indicate the temperature. Depending on the operating mode of the EASYLOG other messages will be displayed as well.



The EASYLOG recording has been "stopped". The logger memory is empty. The logger is reset and can be restarted.



The EASYLOG recording has been "halted". The stored data can be read. The logger memory is not empty.



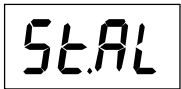
(Display of measurements. Small arrow in left-hand corner flashing)

The logger is active. Measurements are carried out at certain intervals. The value measured will be stored.



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').



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').



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.



The EASYLOG battery is almost empty and needs to be replaced. Please return logger to the manufacturer.



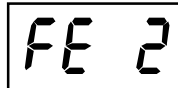
The value measured is below the min. alarm limit.



The value measured has exceeded the measuring range of the logger.



The value measured has exceeded the max. alarm limit.



The value measured has fallen below the measuring range of the logger.

Safety advice:

This device 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 device will be adhered to when using the device.

1. Trouble-free operation and reliability of the device can only be guaranteed if the device 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 device is 85°C

2. Electric connection and commissioning of the device must be carried out by trained and skilled personnel. Wrong connection may lead to the destruction of the device.
3. 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).
4. When connecting the logger to other devices (e.g. PC) the interconnection has to be designed most thoroughly as internal connections in third-party devices (e.g. connection GND with protective earth) may lead to undesired voltage potentials
5. If there is any risk whatsoever involved in running it, the device has to be switched off immediately and to be marked accordingly to avoid re-starting.

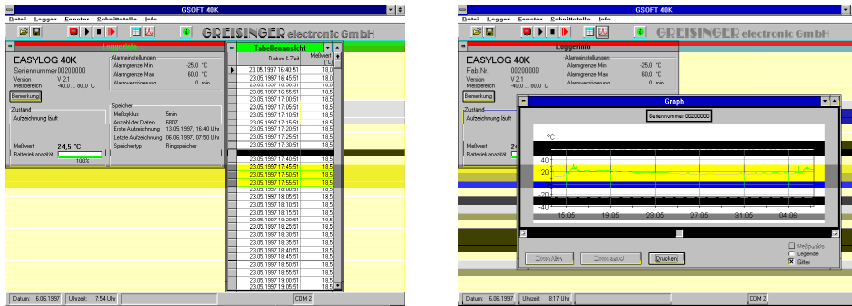
Operator safety may be at risk if

- there is visible damage done to the device
- the device is not working as specified
- the device has been stored under unsuitable conditions for a longer time.

In case of doubt, please return device to manufacturer for repair and maintenance.

GSOFT 40K

Windows-software to start and read out data from the EASYLOG.
The logger data read out can also be memorized and be printed in form of a diagram or table.

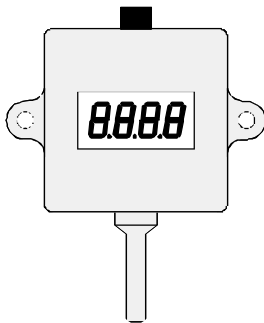


EBW1 (levelconverter)

Level converter RS232 - EASYBUS incl. logger supply during data transfer. (EASYLOG battery will be switched off)



EASYLOG 40K, EASYLOG 40KH



Specification:

Measuringrange:

EASYLOG 40K: -25,0 ... 60,0°C (sensor and electronics)

EASYLOG 40KH: -50,0 ... 150,0°C (sensor)
-25,0 ... 60,0°C (electronics)

Resolution: 0.1°C (display and memory)

Accuracy: ±0,5°C (at nominal temperature)

Sensor: 40K: KTY 87-205 (2-wire)
40KH:Pt1000 (2-wire)

- **type 40K:** sensor tube made of stainless steel, dia 5mm, length approx. 35 mm

- **type 40KH:** sensor tube made of stainless steel, dia 5mm, length approx. 50 mm, silicon cable approx. 1m.
Cable with anti-buckling cable glands made of polyamide, fixed at housing

Display: 10mm high LCD-display

Recording rate: 2sec. to 5h, freely programmable.

Recording time: 500 days (at a recording rate of 15 min)

Meas.valuestorage: 48.000 measuring values

Nominaltemperature: 25°C

Operatingtemperature (electronics): -25 to +60°C

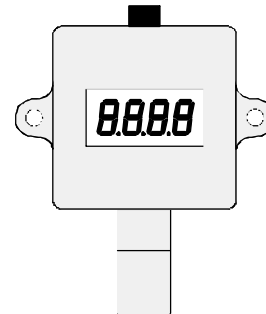
Storagetemperatur: -30 to +85°C

Batteryservicelife: approx. 6 years
(OPTION double battery service life available)

Interface: EASYBUS-interface, 3-pin mini-plug.
Connecting cable with integral mini-coupling incl. in EBW1.

Housing: 48,5 x 48,5 x 35,5 mm (L x W x H) without sensor and plug.
ABS housing, transparent polycarbonat screen, water proof acc. to IP65

EASYLOG 40 RF



Specification:

Measuringrange: 0,0 to +100,0 % r.h.

Resolution: 0.1 % r.h. (display and memory)

Accuracy: ± 3 % within 11-90%

Sensor: high-quality capacitive polymer humidity sensor

Sensortube: dia 14mm made of galvanized brass

Filter: removable bronze filter 80-160µm, galvanized

Display: 10 mm high LCD-display

Recording rate: 4sec. to 5h, freely programmable

Recording time: 500 days (at a recording rate of 15 min)

Meas.valuestorage: 48.000 measuring values

Nominaltemperature: 25°C

Operatingtemperature : -25 to +60°C

Storagetemperatur: -30 to +85°C

Batteryservicelife: approx. 6 years
(OPTION double battery service life available)

Interface: EASYBUS-interface

Housing: 48,5 x 48,5 x 35,5 mm (L x W x H)
without sensor and plug.



GWH 40K (wall mounting with lock)

cannot be used for
EASYLOG40NSW