Operating manual for
EASY LOG 40NSK

CE

General:

The logger **EASYLOG40NSK (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.
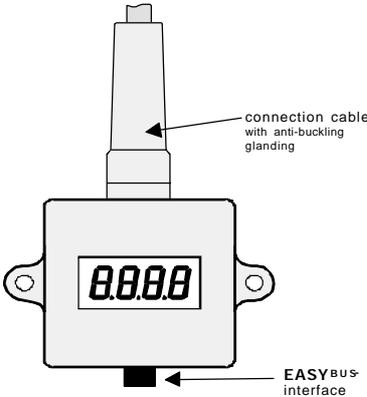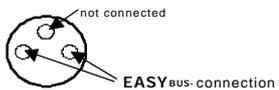
Required accessory:

The **EASYBUS** interface is used to program, start and read out the **EASYLOG40NSK**.
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 (**EASYLOG40NSK** - 4-20mA)
	0.00 ... 20.00 mA (**EASYLOG40NSK** - 0-20mA)
	0.00 ... 2.00 Volt (**EASYLOG40NSK** - 0-2V)
	0.00 ... 10.00 Volt (**EASYLOG40NSK** - 0-10V)
Input resistance:	Rs = 100 Ohm (4-20mA, 0-20mA)
	Ri > 300 kOhm (0-2V, 0-10V)
	(input is not isolated from EASY Bus)
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:	± 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:	*"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 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) via 0.5m connection cable
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).

connection cable with anti-buckling glanding

EASY BUS-interface

assignment of EASYBus-interface jack:

not connected

EASYBus- connection

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:

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 **EASY LOG** 'wakes up' as soon as it is connected to an **EASY Bus**-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 EASY LOG-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 assigment may not correspond to the **EASY LOG** assignment.

EASY LOG:

The **EASY LOG** 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 **EASY LOG** other messages will be displayed as well.

`StoP`	The **EASY LOG** recording has been "stopped". The logger memory ist empty. The logger is reset an can be restarted.
`HALT`	The **EASY LOG** recording has been "halted". The stored data can be read. The logger memory is <u>not</u> empty.
`12.9`	*(Display of measuring value. Small arrow in left-hand corner flashing)* The logger is active. Measurements are carried out at certain intervals. The value 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 ('<u>St</u>art <u>dE</u>lay').
`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 ('<u>St</u>art after <u>AL</u>arm').
`St.Et`	The logger is active, but no data are recorded. Recording will start as soon as the external starting key is plugged in ('<u>St</u>art after <u>E</u>xternal <u>t</u>rigger). Please note: After recording has been started the starting key can be removed again.
`bAt`	The **EASY LOG** battery is almost empty and needs to be replaced. Please return logger to the manufacturer.

`AL.Lo`	The value measured is below the min. alarm limit.	`FE 1`	The measured value has exceeded the measuring range of the logger.
`AL.HI`	The value measured has exceeded the max. alarm limit.	`FE 2`	The measured value 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.