

Operating manual for EASYLOG 40IMP



General:

The logger EASYLOG 40IMP is especially designed for long-time monitoring of low frequencies. 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:

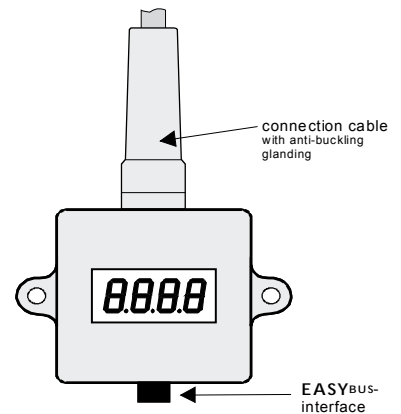
The EASYBUS interface is used to program, start and read out the EASYLOG 40IMP.

For this following accessory is required:

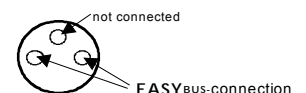
- Level converter: RS232 - EASYBUS (e.g. EBW1, EBW64)
- connecting cable: level converter to EASYLOG
- **EBxKonfig** (version >3.1): Software to configurate the EASYLOG (display range, decimal point, display unit)
- **GSOFT 40K** (version >5.0): Windows-Software to start the logger and read out the loggerdata.

Specification:

Measuring range:	0 to 30000 pulses per cycle
Signal input: ... 40 IMP/S:	electrically isolated switching-contact (open: $R > 300k\Omega$, closed: $R < 5000 \Omega$)
... 40 IMP/T:	TTL-signal input (aktiv signal) signal low: 0 - 0.5V signal high: 2.7 - 10V or input current is limited to 2mA <i>(input is not electrically isolated from the EASYBUS)</i>
Display range:	-1999 ... 9999 digit, arbitrary decimal point position
Resolution (display and storage):	1 digit
Display:	10 mm LCD-display
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.
Recording time:	depending on measuring cycle set, (500 days at a measuring cycle of 15min)
Interface:	EASYBUS
Busload:	2 EASYBUS standard loads
Battery service life:	depending on measuring cycle set, (approx. 6 to 8 years at 15min and nominal temperature) ATTENTION: The current consumption is explicitly increased, if the EASYLOG 40IMP's isolated switching-contact is closed. OPTION: double battery service life available
Nominal temperature:	25°C
Operating temperature:	-25 to +60°C
Storage temperature:	-30 to +70°C
Housing:	48.5 x 48.5 x 35.5 mm (L x W x D), without cable and plug 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).



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.

Operating mode display:

The EASYLOG is equipped with a 10 mm LCD display.

The LCD mainly displays measured values. Depending on the operational state additional messages may be display.

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 measuring value. Small arrow in left-hand corner flashing)
The logger is active. Measurements are carried out at certain intervals. The measured values 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 measured value 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 measured value is below the min. alarm limit.

The measured value has exceeded the max. alarm limit.

Measured value exceeds measuring range.

Measured value remains under measuring range.

The EASYLOG has detected a system fault.
Potential causes: at recording logger the busvoltage was frequently interrupted, device failure
=> connect logger with the GSOFT40K and reset the system fault,
if the error message displayed furthermore please send the logger to the manufacturer to repair.

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 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:

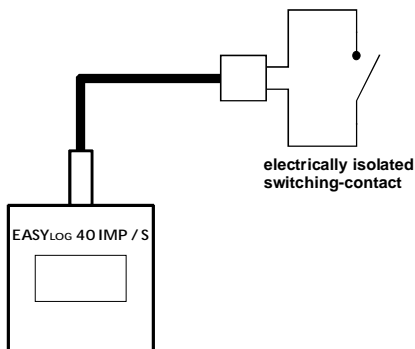
The display range, position of decimal point and the display unit can be set by the **EBxKonfig** software. Furthermore, it can be used to read out sensor information (unit type, serial number, address, etc.) and to program the alarm points of the logger.

Connection Hints:

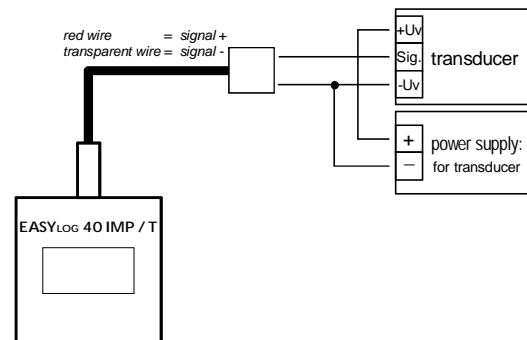
The input signals of each EASYbus sensor module (e.g. EASYLOG 40NS ..., EASYLOG 40IMP, **EBN**) have to be isolated electrically from each other, if connecting several EASYbus sensor modules to the same EASYbus.

Connection example:

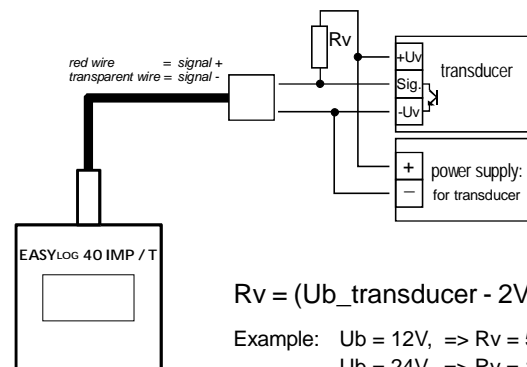
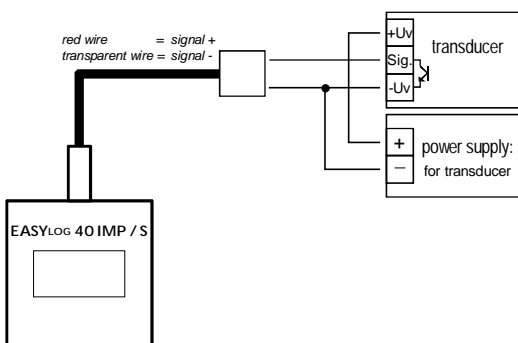
EASYLOG 40 IMP / S: (elec. isolated switching-contact)



EASYLOG 40 IMP / T: (TTL-signal input, aktiv signal)



Connection example for a transducer with npn-output (e.g. FHK-PVDF):



$$R_v = (U_b_transducer - 2V) / 2 \text{ mA}$$

Example: $U_b = 12V, \Rightarrow R_v = 5k$
 $U_b = 24V, \Rightarrow R_v = 11k$

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 70°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.

6. **Warning:**

Do not use these product as safety or emergency stop devices, or in any other application where failure of the product could result in personal injury or material damage.

Failure to comply with these instructions could result in death or serious injury and material damage.

Disposal instructions:

The device must not be disposed in the regular domestic waste.

Send the device directly to us (sufficiently stamped), if it should be disposed. We will dispose the device appropriate and environmentally sound.