E25.0.5X.6C-05

GREISINGER

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EN

Data logger for impulse

as of version V7.4

Operating Manual

EASYLOG 40IMP

CE

Made in Germany

WEEE-Reg.-Nr. DE93889386

GHMGROUP
Specialists by Competence.

GHM GROUP - Greisinger
GHM Messtechnik GmbH | Hans-Sachs-Str. 26 | 93128 Regenstauf | GERMANY
Tel.: +49 9402 9383-0 | info@greisinger.de | www.greisinger.

Contents

1 General Note

Read this document carefully and get used to the handling of the device before you use it. Keep this paper ready to hand in order to look it up if a question turns up. Read this document carefully and get used to the operation of the device before you use it. Keep this document within easy reach near the device for consulting in case of doubt.

Mounting, start-up, operating, maintenance and removing from operation must be done by qualified, specially trained staff that have carefully read and understood this manual before starting any work.

The manufacturer will assume no liability or warranty in case of usage for other purpose than the intended one, ignoring this manual, operating by unqualified staff as well as unauthorized modifications to the device.

The manufacturer is not liable for any costs or damages incurred at the user or third parties because of the usage or application of this device, in particular in case of improper use of the device, misuse or malfunction of the connection or of the device.

The manufacturer is not liable for misprints.

2 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. EBW 1, EBW 64, EBW 240)
  or
  USB - EASYBus (e.g. EBW 3)
- connecting cable: level converter to EASYLOG
- **EASYBus-Configurator:**
  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.

3 Safety instructions

3.1 Intended Use

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.

3.2 Safety signs and symbols

Warnings are labeled in this document with the followings signs:

Caution! This symbol warns of imminent danger, death, serious injuries and significant damage to property at non-observance.

Note! This symbol point out processes which can indirectly influence operation or provoke unforeseen reactions at non-observance.

3.3 Safety guidelines

This device has been designed and tested in accordance with the safety regulations for electronic devices. However, its trouble-free operation and reliability cannot be guaranteed unless the standard safety measures and special safety advises given in this manual 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. General instructions and safety regulations for electric, light and heavy current plants, including domestic safety regulations (e.g. VDE), have to be observed.

3. If device is to be connected to other devices (e.g. via PC) the circuitry has to be designed most carefully. Internal connection in third party devices (e.g. connection GND and earth) may result in not-permissible voltages impairing or destroying the device or another device connected.

4. 

If there is a 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 a risk if:
- there is visible damage 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 or maintenance.

5. 

Do not use this 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!

4 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 software has been established. The display jumps back and forth between the current measuring value and 'Stop' and the logger is ready for operation.

5 Reshipment and Disposal

5.1 Reshipment

DANGER

All devices returned to the manufacturer have to be free of any residual of measuring media and other hazardous substances. Measuring residuals at housing or sensor may be a risk for persons or environment

Use an adequate transport package for reshipment, especially for fully functional devices. Please make sure that the device is protected in the package by enough packing materials.

5.2 Disposal instructions

Batteries must not be disposed in the regular domestic waste but at the designated collecting points.

The device must not be disposed in the unsorted municipal waste! Send the device directly to us (sufficiently stamped), if it should be disposed. We will dispose the device appropriate and environmentally sound.

6 typ. battery service life and recording time

Meas. cycle:	2 sec.	1 min.	15 min.
Recording time:	26.5 hours	33 days	500 days
Battery service life:	~ 200 days	~ 4-5 years	~ 6-8 years

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

7 Programming of the display unit

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.

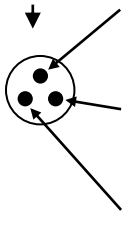
8 Connection

8.1 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**.

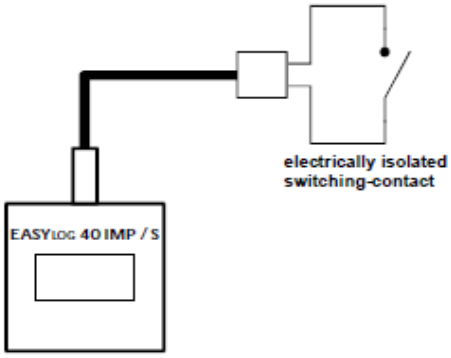
8.2 Connection of interface

■ **Assignment of the input jack (front view to the pins):**

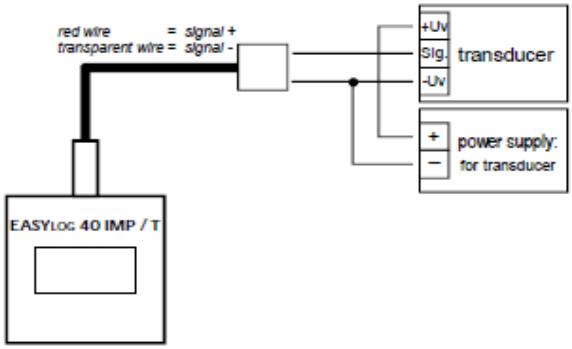


8.3 Connection examples

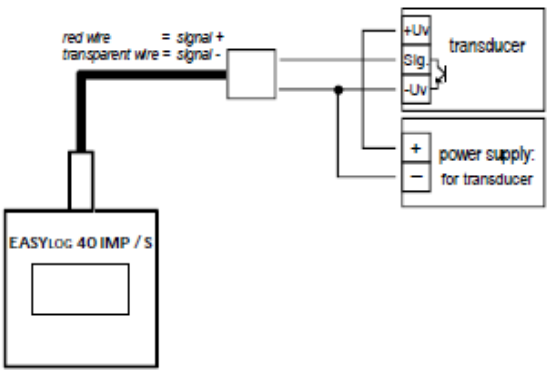
EASYLOG40IMP/S: (elec. isolated switching contact)

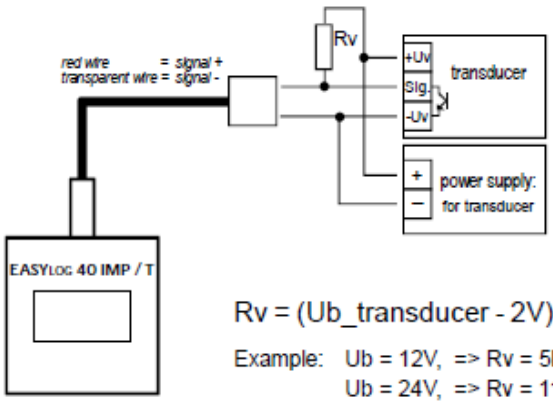


EASYLOG40IMP/T: (TTL-signal input, active signal)



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





Rv = (Ub_transducer - 2V) / 2 mA

Example: Ub = 12V, => Rv = 5k
Ub = 24V, => Rv = 11k

9 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 displayed.

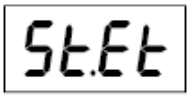
STOP:
The **EASYLOG** is ›stopped‹. The logger memory is empty.
The logger is reset an can be restarted.

HALT:
The **EASYLOG** is ›halted‹. the stored data can be read. The logger memory is not empty.

VALUE DISPLAY:
The logger is active. Measurements are carried out at certain intervals. The measured values will be stored.

START DELAY:
The logger is active, but no data are recorded. As soon as the start delay time has expired the logger will start recording in a accordance with the starting conditions programmed before (‘Start dElay’).

START ALARM:
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’).



START EXTERN:
The logger is active, but no data is recorded. Recording will start as soon as the external staring key is plugged in (‘Start after External trigger).
Pleas note: After recording has been started the starting key can be removed again.

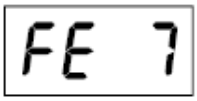
BATTERY:
The battery is almost empty and needs to be replaced. Please return logger to the manufacturer.

ALARM LOW:
The measured value is below the min. alarm limit.

ALARM HIGH:
The measured value has exceeded the max. alarm limit..

FAILURE 1:
Measured value exceeds measuring range.

FAILURE 2:
Measured value remains under measuring range.



FAILURE 7:
The logger has detected a system fault.
Potential causes: at recording logger the bus voltage was frequently interrupted, device failure
⇒ connect logger with the GSOFT40K and reset system fault, if the error message displayed furthermore please send the logger to the manufacturer to repair

10 Specification

Measuring range:	0 to 30000 pulse/cycle
Signal input: … 40 IMP/S:	**electrically isolated switching-contact**
	(open: R > 300kOhm, closed: R< 5000Ohm)
… 40 IMP/T:	**TTL-signal input (active signal)**
	signal low: 0 – 0.5V
	signal high: 2.7 – 10V or input current is limited to 2mA
	input is not electrically isolated from the EASYBUS
Display range:	-1999 to 9999 digit, arbitrary decimal point position
Resolution:	1 digit (display and storage)
Display:	10 mm high LCD-display
Interface:	**EASYBUS**
Busload:	2 **EASYBUS**-standard loads
Measuring interval:	2s to 5h
Meas. value memory:	48000 measuring values
Type of memory:	"*filling memory*": Once memory is filled with data, the recording will automatically be halted.
	"*ring memory*": The old data will be overwritten in case of memory overflow.
Batterie:	1x fixed lithium cell (Li / SOCl2) 3.6V / 1200 mAh (= 4.32 Wh) (with option DBK: 2 cells of this type)
Battery service life:	depending on measuring cycle set, (approx. 6-8 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
Recording time:	depending on measuring cycle set (500 days at measuring cycle of 15min)
Nominal temperature:	25°C
Working 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 of polycarbonate, splash-proof acc. to IP65
Electric connection:	(for input signals) via 0.5m connection cable
Directives and standards:	The instruments confirm to following European Directives: 2014/30/EU EMC Directive 2011/65/EU RoHS Applied harmonized standards: EN 61326-1 : 2013 emissions level: class B, emi immunity according to table 2 Additional fault: <1 %