Automations- und Steuerungstechnik GmbH

Product description

EIBAnalyzer

DIN-rail mounted for diagnostics without PC

Order code:
E001-B902800

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In this manual also functions are described, which represent partially options.
Our devices may be attached only by technical personnel!

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Softwaredesign and programming:	Volker Knapp, Hartmut Zander, Peter Bernert, Michael Weis
Documentation:	Volker Knapp, Peter Bernert
Editor:	Steffen Kiene

b+b Automations- und Steuerungstechnik GmbH
Eichenstraße 38a
D-64743 Beerfelden
Tel.: +49 6068 / 478910
Email: support@bb-steuerungstechnik.de
Internet: http://www.bb-steuerungstechnik.de

Overview

Highlights EIBAnalyzer

- Recording without PC
- Recording of EIB-telegrams
- Recording of disturbed telegrams
- Recording of pure disturbance (EMC)
- Recording of bus voltage failures
- Exact measuring of all telegrams and disturbances
- Exact timestamp to all telegrams (2µs)
- No bus manipulation during recording
- DIN-rail mounted 9 units
- Incl. 1 GB USB-Stick
- EIBDoktor-Software for analysis included in delivery

Fields of application for the EIBAnalyzer

- Logging of EIB-telegrams
- Diagnostics
- Recording of EIB-Telegrams without PC

Contents of delivery EIBAnalyzer

- EIBAnalyzer DIN-rail mounted
- 1 GB USB-Stick
- EIBDoktor-Software
- Documentation

Introduction

With the EIBAnalyzer you can do long-time recording in EIB installations without PC. The recording is stored directly on an USB stick (1 GB), which is included in delivery of the EIBAnalyzer.

On an USB Stick with 1 GB space you can log data of nine days, if the busload is 100% (50 telegrams per second). If the busload is less you can log longer accordingly.

The recording can be done linear (until memory is full) or in a circular buffer. If the USB stick is configured as circular buffer, the oldest data is overwritten, so that at least the last nine days of recording are available.

The analysis is done with the EIBDoktor software, which is also included in delivery.

Detailed information about the EIBDoktor software and its handling can be found in the EIBDoktor manual.

Hints to the USB media

The EIB-Analyzer can be used with USB Sticks and USB hard disks. Precondition is a filesystem of type FAT16 (in Windows often only called FAT) or FAT32. USB Sticks should always be formated with FAT16. **Not all USB-Sticks are applicable for permanent operation!** The sticks orginally deliverd from us have been proved in permanent operation. Some other sticks fail in permanent operation after some time. The EIBAnalyzer does a restart, as soon as a stick doesn't react, but the recording can than have gaps.

If you use the EIBAnalyzer with an USB hard disk, it must be formated with FAT32. Windows 2000 and Windows XP can maximal format 32GB with FAT32. With Windows ME also bigger partitions can be formated with the FAT32 filesystem. The harddisk must be supplied through an own power supply.

An error-free recording we can only guarantee with the USB sticks deliverd from us!

EIBAnalyzer configuration

Two settings can be configured for the EIBAnalyzer:

- recording mode (endless or memory filling)

- internal time (for synchronisation of the timestamp)

The configuration is done over a special dialog in the EIBDoktor software:

For recording mode you can select between „Endless mode" and „Stop, if USB stick is full". In „Endless mode" automatically the oldest data is overwritten, if there is no free space on the USB stick. In the second mode, the recording is automatically stopped, if there is no free space on the USB stick. So the „Endless mode" is useful, if you have to wait for a special EIB-error for a longer time. The setting is saved on the USB Stick and is read by the EIBAnalyzer when the USB stick is plugged in.

You can also save a time/date on the USB stick. This time is used by the EIBAnalyzer at the push of a button as current time. So you can set the internal realtime-clock of the Analyzer correctly. The internal clock of the EIBAnalyzer is battery backed. The deviation is very low. If the timestamp should be equal to the time of the PC, you can synchronise the time anytime.

To set the time of the Analyzer, you specify a time, that is a few minutes in the future.

This time is saved on the USB stick.

After you have plugged in the USB stick into the operational EIBAnalyzer, the LED „USB-Stick gesteckt" blinks slowly. If you push on the start button, the specified time will be taken and the recording starts.

If the „USB-Stick gesteckt" LED blinks fast after you have plugged in the USB stick, the stick is write protected. In that case remove the write protection and plug in the stick again.

Display elements

LED: „USB-Stick gesteckt":
      Constant on: Normal state with plugged in stick
      Slow blinking: Ready for time synchronisation
      Fast blinking: Stick write protected
      After you have plugged in the stick it will take some seconds until it has been identified und checked. Only then the LED is activated.
      If the stick has been formated with another filesystem than FAT16 or FAT32, the LED will stay dark.
LED: "Speicherplatz"
      Displays the available free memory with light-dark changes. As longer the dark phase as fuller is the USB stick
LED: "Aufzeichnung aktiv"

If recording is started, this LED is on. If data is written to the stick this LED is off for a short time. After the stick has been plugged in, it takes some seconds until recording starts.

After connecting the device to the supply voltage, the three LEDs described above are constantly on for some seconds until the start procedure of the EIBAnalyer has finished. Then these LEDs go off and it is searched for a stick.

"PWR" LED:
    Powersupply display
"BUS Tel." LED:
    Blinks shortly if a bus telegram is received
"BUS Fehler" LED:
    Blinks shortly on a telegram failure (Busy, NACK, no ACK)

If no EIB bus voltage is detected, the LEDs "BUS Tel." and "BUS Fehler" will blink asynchronously.

Control elements

Start button:
    Starts the recording if it has been stopped manually. On device restart or plugging in the USB stick the recording is started automatically.
Stop button:
    Stops an active recording.
    This button must always be pressed before you unplug the USB stick to prevent data loss.

Remark:
The buttons have a debounce time of ca. 0.5 seconds to prevent unwanted switching operations.

Importing of the EIBAnalyzer data into the EIBDoktor

There are three different modes, to import the EIBAnalyzer data:

1.) Import data in one EIBDoctor LOG file:
   The data is read from the USB stick and translated into one big EIBDoktor-Log-file

   Advantage: The complete data is available
   Disadvantage: A very big file is created

2.) Import data in multiple LOG files, splitted by date:
   The data is read from the USB stick and translated into n EIBDoktor-Log-files.
   Per recording day one EIBDoktor-Log-file will be created

   Advantage: Short load times with the EIBDoktor
                Better overview
                Faster access to special time periods
   Disadvantage: The statistic in the EIBDoktor is only valid for the period.

3.) Import data from a specific range in one LOG file:
   The data is read from the USB stick and translated into an EIBDoktor-Log-file,
   that only contains telegrams of the specified time span.

   Advatage: Short load times with the EIBDoktor
               Better overview
               Faster access to special time periods
   Disadvantage: Only the selected time period is available
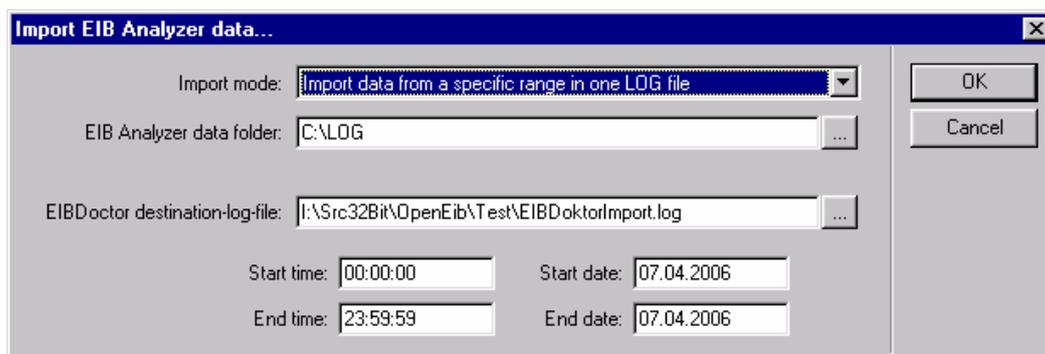
It is possible to activate a „delete" option with modes 1 to 2. If this option is active, the USB data files will be deleted after a successful import to clean up the USB stick and to make it ready for the next logging session.

In mode 1 to 3 the import may generate not only one, but n different files, the filenames will contain an ascending number. This will happen if the EIB Analyzer has been stopped and restarted. After a successful import the user will be asked, if he wants to open one of the imported Log-files.

As fourth possibility no real import is available, but copiend the log data to a local hard disk. Here the data is copied from the source- (USB) to the destination directory (hard disk). The stick can optionally be deleted.

Further information about the EIBDoktor software and its handling can be found in the EIBDoktor manual.

What is possible with the EIBDoktor?

- Logging all EIB-telegrams (also non-EIS)
- Display of all, also disturbed bus telegrams
- Display of errors on the lines
- Collission detection
- Detected telegram errors are assigned to actual telegrams
- Display of the user data in readable format (e.g. relative dimming values)
- Clear and simple user guidance
- Selectable filtered display (e.g. by group addresses)
- Constantly actualized statistic (bar graphs) for
     number of telegrams to detect bus load sources
     number of repeats to detect telegrams without ACK
     number of errors (e.g. NACK, BUSY, collision)
     number of telegrams based on physical addresses
- Permanently reordering of bargraph display
- Measuring of real bit times to detect wiring errors

Statistical analysis also after recording