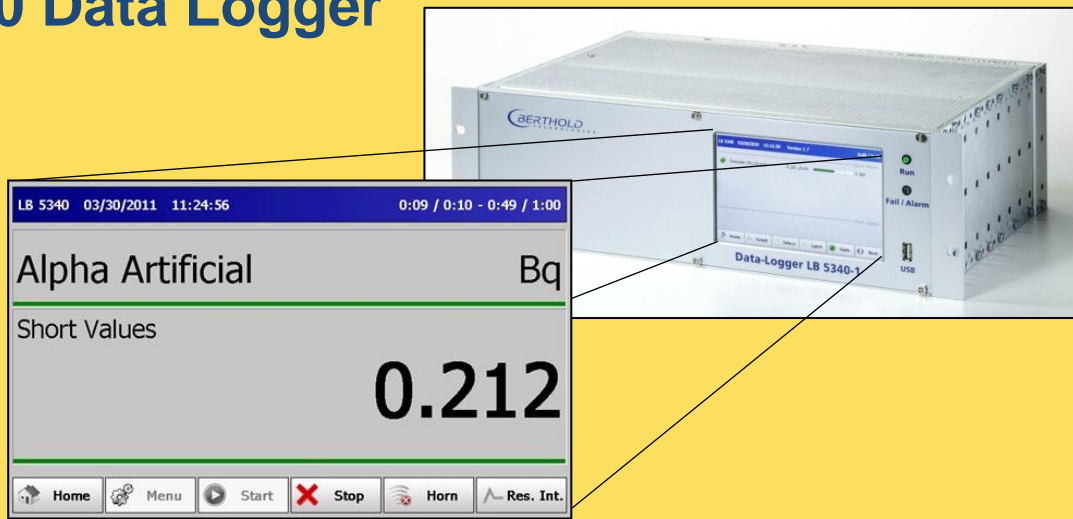


# Product Information

## LB 5340 Data Logger



### Applications

- Air monitoring (aerosol-, noble gas-, iodine-, and tritium-monitors)
- Water monitoring
- Dose- and Dose rate monitoring

### Functions

- Universal Data acquisition system for various radiation protection applications
- Operating system: Windows CE 6 Embedded O.S.
- Modular design: allows insertion of up to 6 different peripheral boards
- Software supports 6 radiometric measuring channels and 2 sensor inputs
- Graphical user interface with clear, concise presentation of information
- TFT touch display with fluorescence-backlight
- Preinstalled configuration wizard for standard applications
- Integrated service tools for quality assurance and periodical tests
- Alarm and status page
- F<sup>2</sup>C-Datacommunication via RS 232/RS 485
- FIFO data memory with 1000 values per channel
- Embedded watchdog function



# LB 5340 Data Logger

## Equipment concept

The Data Logger LB 5340 is a universal data acquisition system, which could be used for a variety of measuring applications in all scopes of radiation protection measurement techniques.

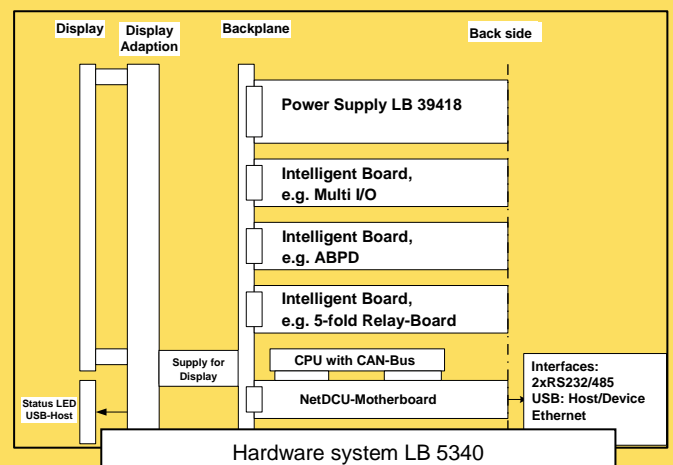
The 19"-rack design enables the usage in a desktop housing or as a rack mounted device. Both versions are characterized by a compact and visually attractive designed metal enclosure, and equipped with a colored touch-screen. For service purposes a mouse and/or keyboard can be connected.

Due to the modular design the LB 5340 can be equipped, according to the application required, with different detectors, sensors and peripherals by means of modules – max. 6. The selectable modules are:

- ABPD-board for pseudo-coincidence
- Detector DAQ-board
- Universal IO- board
- 8-fold current-output-board
- Relay-board with 5 double pole relays or external 8-fold Relay card
- Power supply for detectors (4 x Tuchel-connectors)



LB5340 Data Logger (19"-rack, 3 HE)



Hardware system LB 5340

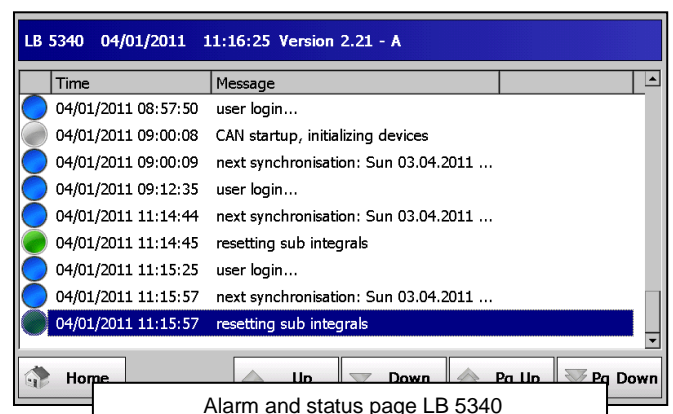
With these modules a system with up to 6 radiometric measuring channels, 2 sensor inputs combined with up to 8 relay outputs, 8 digital outputs, 4 digital inputs as well as 10 analogue outputs is possible.

All connections are located on the backplane and are easily accessible. One USB-connector is available on the front panel of the device.

The system processes the module control, calculation of all measuring results, as well as balancing.

## General Information

- Data communication with F<sup>2</sup>C protocol via RS 232 / RS 485 or Ethernet.
- FIFO data memory with 1000 values for each channel
- Wide range power supply (93 – 264 VAC)



Alarm and status page LB 5340

# LB 5340 Data Logger

## Software Features

The LB 5340 is equipped with well-engineered software, which makes various system configurations easy and straight forward.

The configuration of the virtual channels is individually programmable for each channel via provided software assistants. Averaging algorithms (ratemeter or moving average), as well as the specification of alarm thresholds can be chosen.

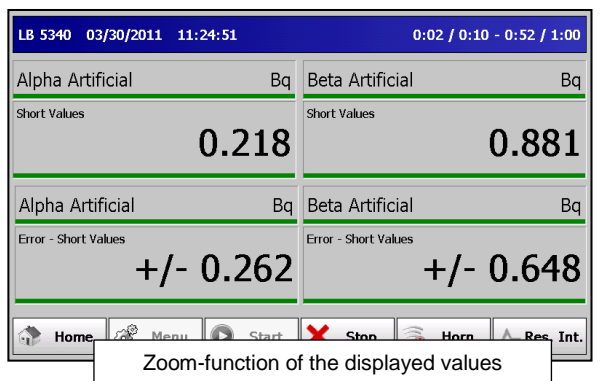
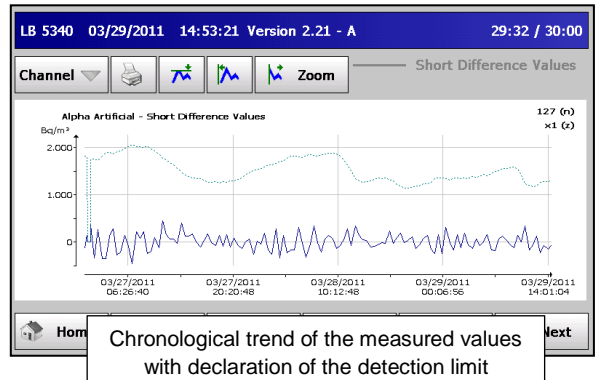
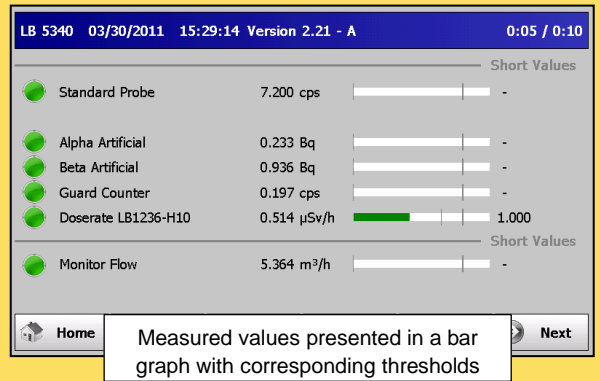
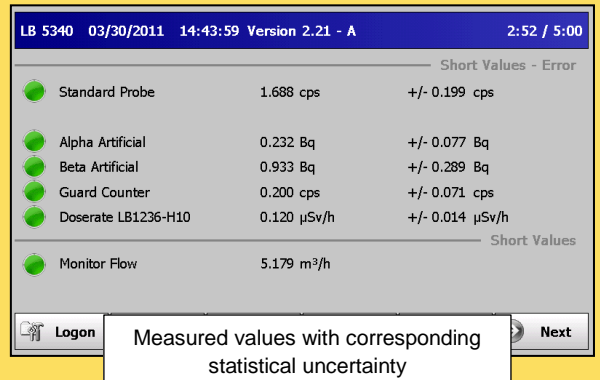
Besides the configuration of the radiometric channels the configuration of the digital in- and outputs as well as the relay outputs is possible.

There are various service functions for the performance of periodical tests: Background measurement, calculation of calibration factors, plateau measurement and calculation of pseudo-coincidence factors.

The measured values and graphics are shown by means of different depictions in pre-defined screen pages. It is possible to make a pre-selection of the presented screens. Another possibility for presentation is the zoom-function, which allows an enlarged view of up to 4 measuring channels. This feature enhances the display readability at a greater distance from the data logger.

The access levels are secured by two passwords. In the user-level: setting of system- and measurement parameters as well as performing measurements and periodical tests is possible. In the administrator-level it is possible to configure the system completely, for example performance of calibration measurements, configuration of measuring channels and definition of analogue and digital in- and outputs.

Remote access and configuration import & export is supported via USB and Ethernet ports and LB 5340 remote configuration utility software.



# Technical Data LB 5340

## Mechanical Data

19" rack, euro board, desktop housing or rack mounting device  
Graphical touch screen (7" TFT with 800 x 480 resolution), color display and LED-backlight  
Status LEDs within the front panel (power, alarm), passive backplane with 6 or 11 slots  
Communication between the modules via CAN-bus, intelligent data acquisition module with  $\mu$ -controller

## Processor board

Single board computer with ARM9 CPU (64 MB SDRAM, 64 MB Flash, SD-Card-Slot 1 GB)  
Embedded O.S. (Windows CE 6) and application software  
Storage of parameters on SD-card

## Interfaces

Back panel: 2 x RS 232/RS 485 electrically insulated, Ethernet, 1 x USB (Host/Device switchable)  
Front panel: USB Host (keyboard-mouse, printer or memory stick)

## Mains supply

115/230 VAC, power consumption: max. 100 W, fuse: 3AT

## Hardware-modules

### Multi I/O module (LB 39417 (-01)):

4 counting inputs, 2 current inputs (0/4-20 mA), 2 current outputs (0/4-20 mA), 4 digital inputs,  
4 control voltages for probe high voltage 0-5 V, 8 open-collector-outputs, connection via phoenix-terminal-  
(48 pin connector)

### ABPD-module (LB 39415):

Pseudo-coincidence board  $\alpha, \beta, \gamma$ - counting inputs for norm pulses, 2 independent HV-outputs (up to 4 kV)

### ABPD-module (LB 39415-01):

Pseudo-coincidence board  $\alpha, \beta, \gamma$ - counting inputs for norm pulses, 2 independent HV-outputs (up to 1,4 kV)

### DAQ-module (LB 39414):

1 HV-supply up to 4 kV (12 bit resolution), preamplifier for GM, proportional counter tubes and scintillation detectors,  
Software controlled main-amplifier (8 bit), 2 x freely selectable ROI's, 1 integral discriminator  
3 counting channels, 2 HV-outputs (1 x undivided and 1 x divided into 3 parts), 1 BNC counting input and 1 BNC  
counting output

### 8-fold current-output-module:

8 independent current outputs (0/4-20 mA), linear or logarithmic output area selectable

### Relay boards (embedded watchdog function)

*5-fold relay plug-in board:* 5 potential-free, freely programmable relay-outputs with double changer

*External 8-fold Relay board:* 8 freely programmable relay-outputs with double changer, additional 24 V power supply  
required

### Low Voltage Board (LB 39416):

4 x Tuchel-connectors with 5V and  $\pm 15$  V each

## Ambient conditions

Operating temperature range:	0°C to 50°C
Relative humidity:	20 to 80%, non-condensing

## Versions

1. LB 5340-1: Data Logger (19" Sub-Rack)
2. LB 5340-2: Data Logger (Double Device 230 V)
3. LB 5340-3: Data Logger (Double Device 24 V)

Subject to change without prior notice.

