



Product information  
**E.A.S.Y. Bus®**



## Characteristics

### System

- E.A.S.Y.Bus®

### System components

- Sensor modules without measuring data memory
- Sensor modules with measuring data memory
- Centralized measuring, regulating and displaying devices
- Decentralized measuring and regulating devices
- Interface converters

### System features

- Low-cost cabling with twisted 2-pole wires (polarity-free) in ring, star or tree form; freely combinable
- Bus line is used both for power supply and signal transmission
- Wire length up to 1000 m, extendable with repeaters
- Automatic start-up installation
- Sensor modules can be changed, removed or added during running operation.
- Up to 240 sensor modules connectable
- Very high data integrity due to CRC check
- Handling of up to 20 measuring values/sec. possible via bus system
- Response time within E.A.S.Y.Bus® system: 1 second with decentralized regulating: 20 ms

### E.A.S.Y.Bus® hardware

- E.A.S.Y.Bus® hardware based on hardware for M-Bus
- Polarity-free bus connection
- Bus voltage 36 V DC, minimal 24 V DC
- Maximal permissible voltage loss at bus line: 12 V DC
- Master-/slave- system; slaves respond only on request

### Advantages

- Minimal installation and planning effort
- Economic monitoring and regulating systems for multiple measuring points at unbeatable price/performance ratio
- Flexible: changes and extensions possible without difficulty
- Modern and future-proof technology due to digital signal transmission
- Centralized sensor data acquisition, even over long distances

## Applications

- **Temperature monitoring and regulating**  
cold storage houses / storage rooms / laboratory+technology
- **Relative humidity / dew point / temperature**  
monitoring storage rooms / heating, ventilation, climate, museums, collections, libraries, lab+technology
- **Relative humidity / air pressure, CO<sub>2</sub> monitoring**  
production rooms, storage rooms, offices (ambient air quality), greenhouses
- **CO monitoring**  
underground and parking garages, automobile trade, garages, go-kart circuits

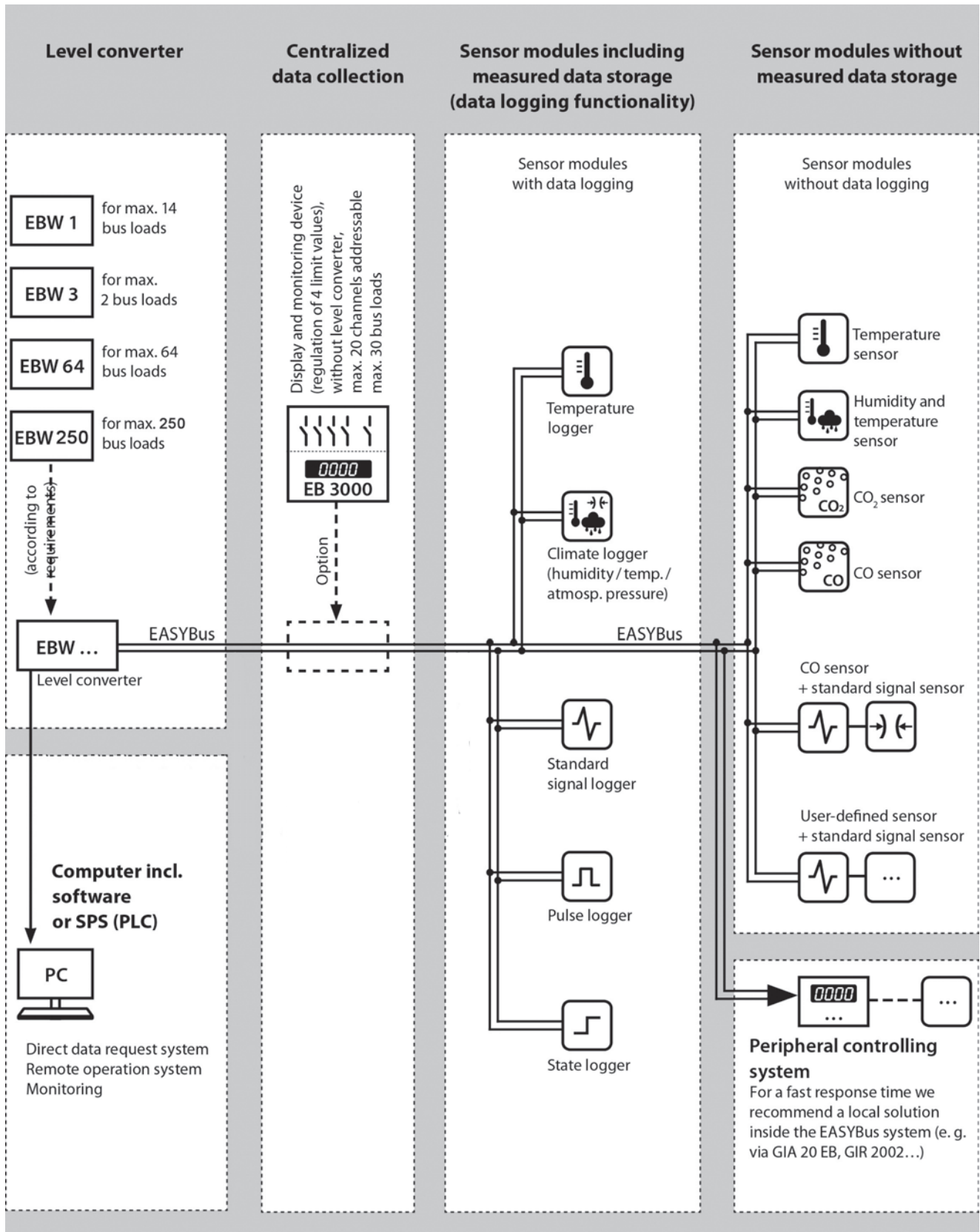
### System components

- Numerous sensor modules (with or without measuring value memory)
- Centralized measuring, regulating and displaying devices
- Decentralized measuring and regulating devices
- Interface converters
- PC with E.A.S.Y.Bus® software (data acquisition and archiving)
- Further components, e.g. for remote acquisition systems
- Wide range of accessories

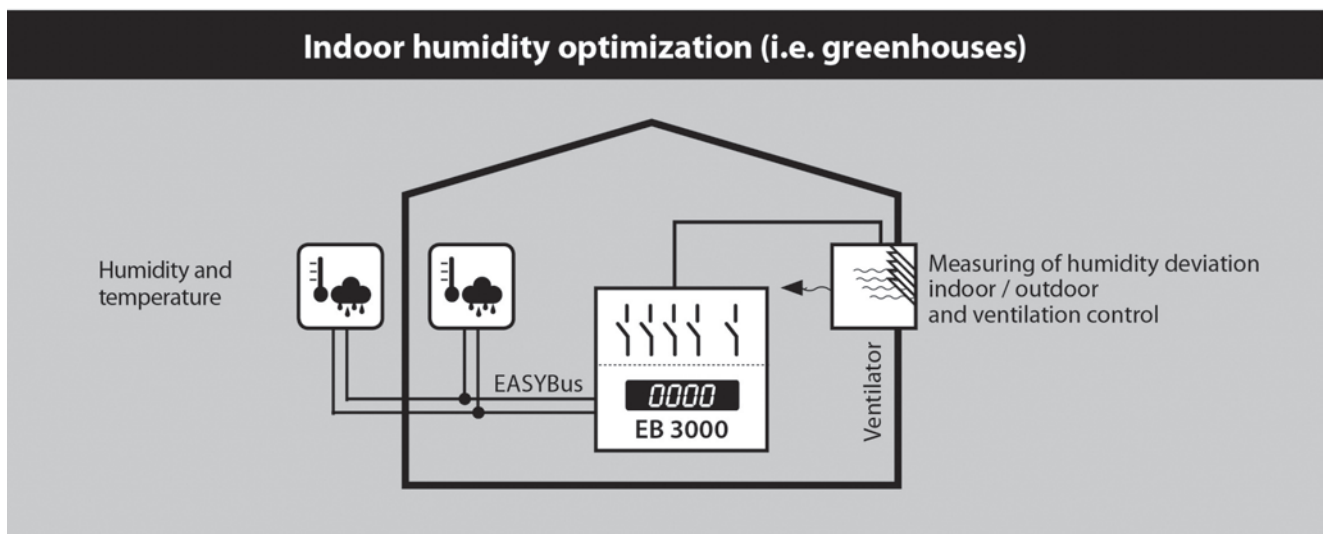
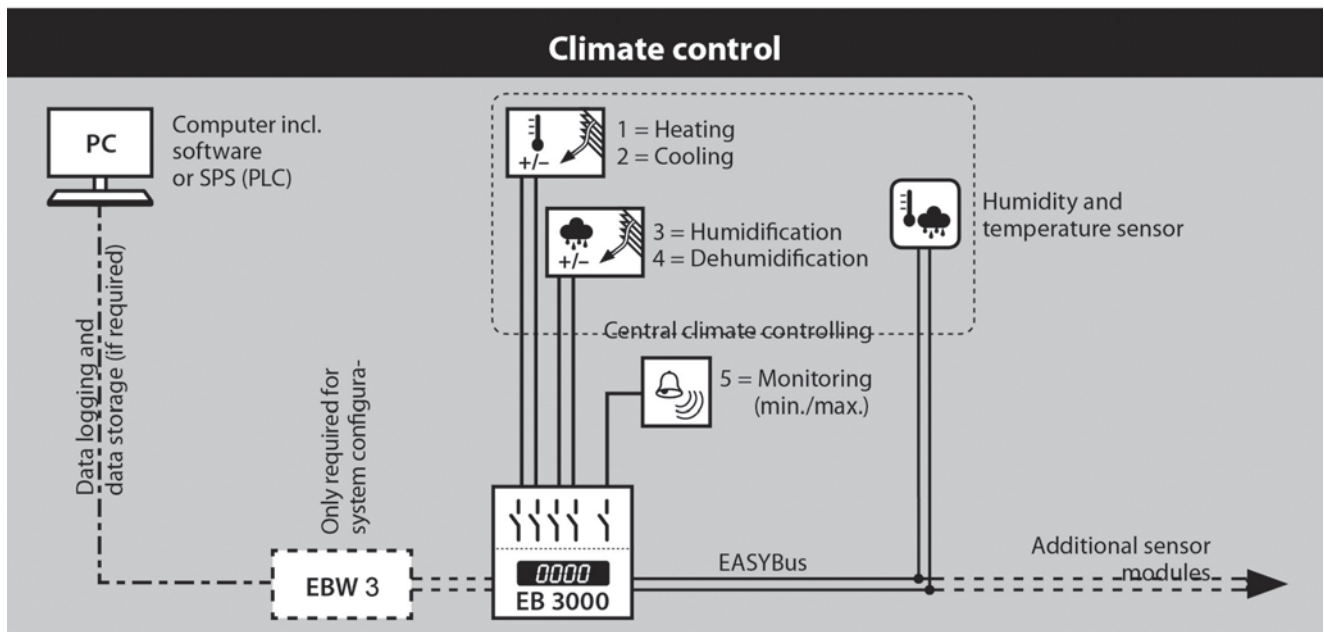
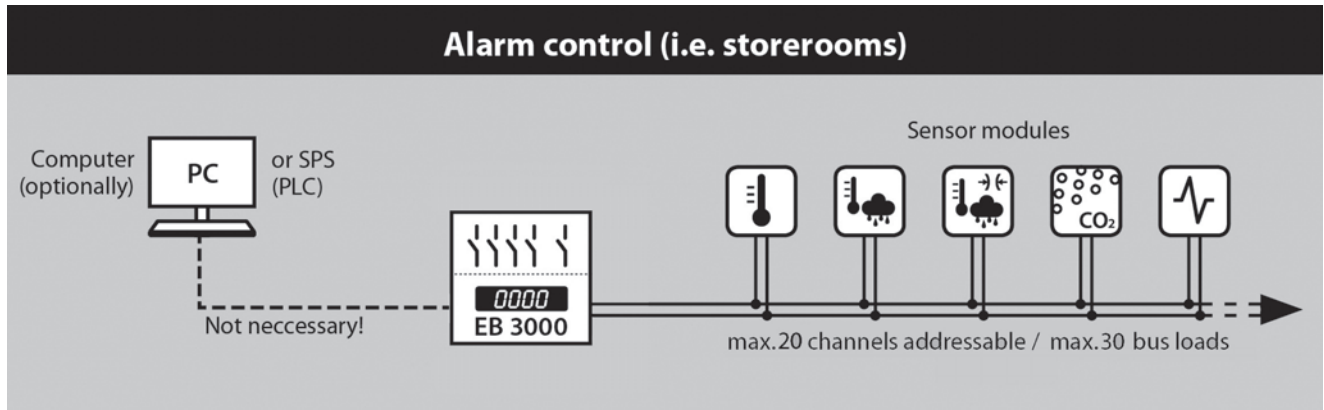
### Available E.A.S.Y.Bus® sensor modules

- Temperature (Pt100, Pt1000, thermocouples)
- Humidity / temperature / pressure (relative humidity, dew point temperature, absolute humidity, ...)
- Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO)
- Frequency, rotation speed, flow, switching state, ...
- Quantity (up- / down- counter)
- Data logger
- Standard signal module for any sensors (4..20 mA, 0..20 mA, 0..50 mV, 0..1 V, 0..2 V, 0..10 V)

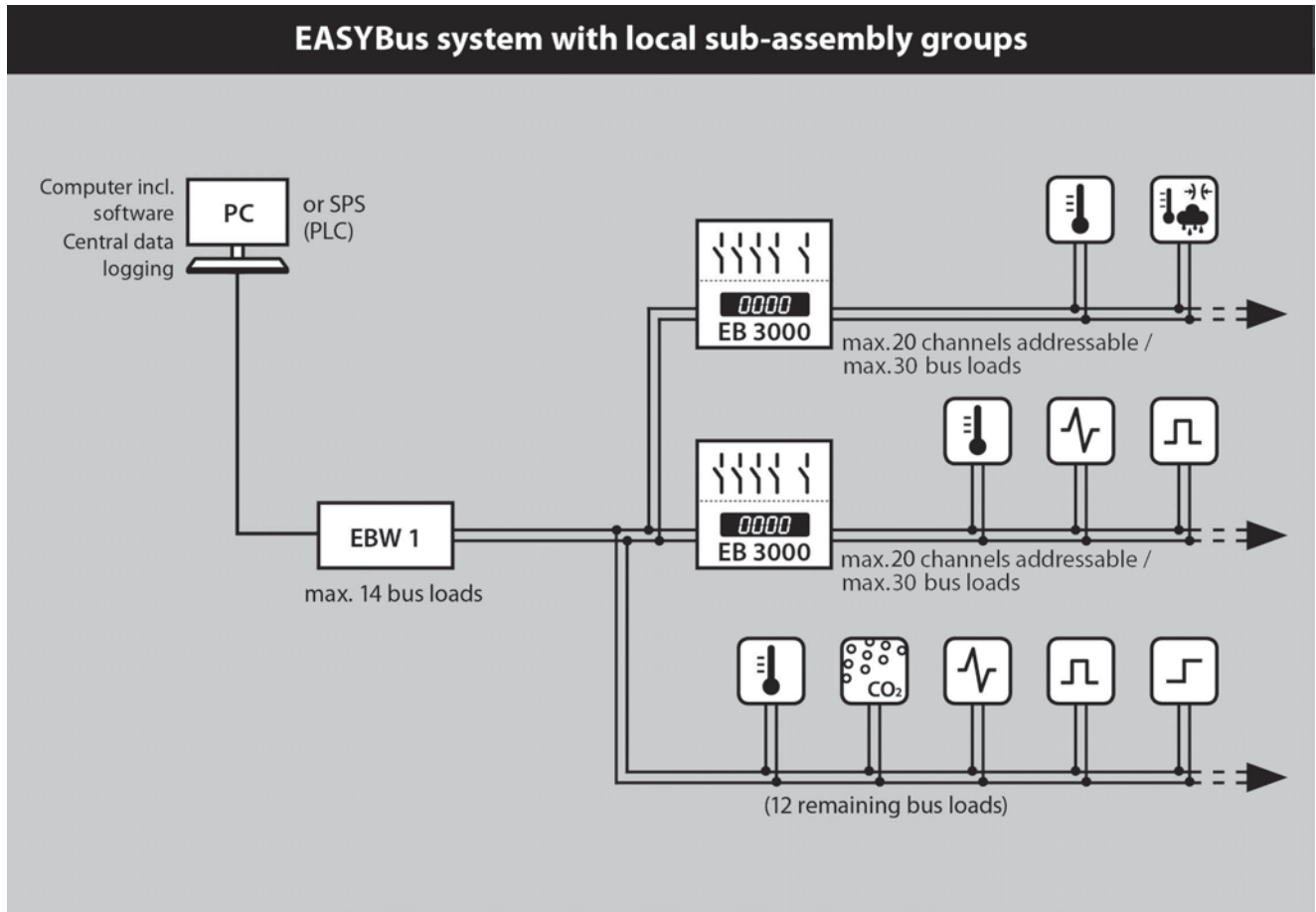
The E.A.S.Y.-Bus® System



Sample Applications / Solutions



Sample Applications / Solutions



Device overview

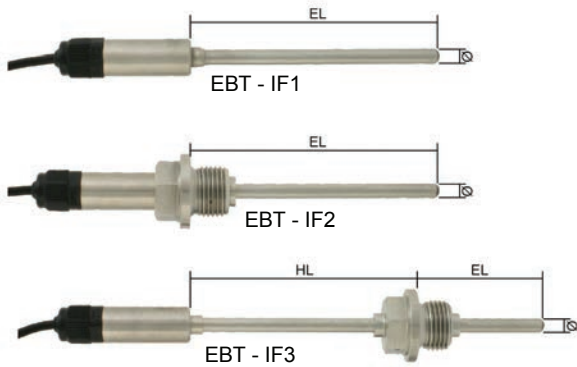
Type	System component	Model type	Measuring range and further information	Page
EBT - IF 1 EBT - IF 2 EBT - IF 3	Sensor module without data memory	Temperature probe	-30,0..+100,0 °C -30,0..+100,0 °C -70,0..+400,0 °C	8
EBT - AP1 EBT - AP2 EBT - AP3 EBT - AP4 EBT - AP5 EBT - 2R EBT - 2RE	Sensor module without data memory	Temperature module	-50,0..+150,0 °C -50,0..+400,0 °C -50,0..+150,0 °C -50,0..+150,0 °C -199,9..+650,0 °C -25,0..+70,0 °C -50,0..+150,0 °C	9
EBHT - 2R EBHT - 1K EBHT - 1R EBHT - 2K	Sensor module without data memory	Humidity / temperature module	0,0..100 % r.F. / -25,0..+70,0 °C 0,0..100 % r.F. / -40,0..+120,0 °C 0,0..100 % r.F. / -40,0..+120,0 °C 0,0..100 % r.F. / -40,0..+120,0 °C	12
EBG - CO2 - 1R	Sensor module without data memory	Carbon dioxide module	0..2000 ppm CO <sub>2</sub>	15
EBG - CO - 1R	Sensor module without data memory	Carbon dioxide module	0..300 ppm CO	15
EBN / K - 4-20mA EBN / W - 4-20mA	Sensor module without data memory	Standard signal module	-1999..+9999 Digit -1999..+9999 Digit	16
EASYLog 80CL EASYLog 80CL-E EASYLog 80CL-AFK	Sensor module with data memory	Humidity / temperature logger	0,0..100 % r.F. / -25,0..+60,0 °C / 300,0..1100,0 hPa	17
EASYLog 40NS W EASYLog 40NS K	Sensor module with data memory	Climate logger	-1999..+9999 Digit -1999..+9999 Digit	18
GIA 2000	Sensor module without data memory	Universal display device	Standard signal, resistance thermometer, thermocouples, frequency, flow, rotation speed, counter	19
GIR 2002 GIR 2002 PID  GIA 20 EB	Sensor module with decentralized regulating	Universal measuring and regulating device	Standard signal, Pt100, Pt1000, thermocouples, frequency, flow, rotation speed, up/down counter, serial interface  Standard signal, Pt100, Pt1000, thermocouples, frequency	20
EBB .. OUT / ..	Sensor module for decentralized regulating	Switching module	2 or 4 bi-stable switching contacts self supplied or with 12 V power supply	25
EB 3000	Centralized data acquisition	EASYBus device for regulating, displaying and monitoring	max. 20 bus loads / max. 20 Module addressable	26
EBW 1  EBW 3  EBW 64 EBW 250	Interface converter		max. 14 bus loads (PC: RS232 / sensor: EASYBus)  max. 2 bus loads (PC: USB / sensor: EASYBus)  max. 64 bus loads max. 250 bus loads (PC: RS232, USB, Ethernet / sensor: EASYBus)	27
GW 110 PB	Interface converter		PROFIBUS auf EASYBus	28

Device overview

Type	System component	Model type	Measuring range and further information	Page
DFM 232 SET	Remote inquiry system	Radio modem set		28
LAN 3200 + WLAN 3200	Remote inquiry system	Serial-to-ethernet converter		29
EASYBus-Configurator	Software	Configuration software		29
EBS 20M EBS 60M	Software	Measuring data acquisition software		30
EASYControl net	Software	Monitoring and displaying software		30
EASYBus.dll	Software	Function library		31
GSOFT 40K	Software	Visualization software		31
Accessories	<ul style="list-style-type: none"> <li>• GWH 10</li> <li>• GWH 40K</li> <li>• EBSK ...</li> <li>• VSL 2P</li> <li>• AKL 1P</li> <li>• USB-Adapter</li> <li>• EBUW 232 A</li> </ul>		Wall mounting for Data logger Wall mounting with lock for Data logger connection cables special cables Special branch terminal Adapter RS 232 <=> USB Independent alarm monitoring	32

Mistakes reserved, technical specifications subject to change without notice.

# Temperature Probe EBT - IF1 / EBT - IF2 / EBT - IF3



- Internal Pt1000 sensor
- Housing made of stainless steel
- Long-term temperature monitoring

## Characteristics

The EBT - IF is used for long-term temperature monitoring. The temperature sensor as well as the EASYBus electronics are integrated in the compact probe.

The temperature is measured by the internal Pt1000 sensor, the measuring values and min-/max- values can be read out via EASYBus interface.

The housing of the probe is made of stainless steel to guarantee optimal corrosion protection. The measuring range, fitting length, probe tube diameter and other parameters of the probes can be modified according to customer preferences. The probes can be configured by means of the EASYBus-Configurator software.

## Technical data

	EBT - IF1	EBT - IF2	EBT - IF3
Measuring range	-30.0..+100.0 °C	-30.0..+100.0 °C	-70.0..+400.0 °C
Measuring sensor	Pt1000		
Accuracy	sensor: DIN class B electronics: ±0.2 % of m.v. ±0.2 °C		
Working temperature	-25..+70 °C (electronics in cable sleeve)		
Interface	EASYBus interface, fixed 2-pole cable, cable length: 2 m		
Probe tube D (standard)	Ø 6 mm		
Process connection (standard)	—	thread G ½	thread G ½

Fitting length (standard)	EL = 100 mm	EL = 100 mm	EL = 50 mm
Neck tube length (standard)	—	—	HL = 100 mm
Housing	stainless steel (V4A)		
Protection class	IP67		
Bus load	1.5		

## Dimensions

Cable sleeve : Ø 15 x 35 mm (without thread)

## Ordering code

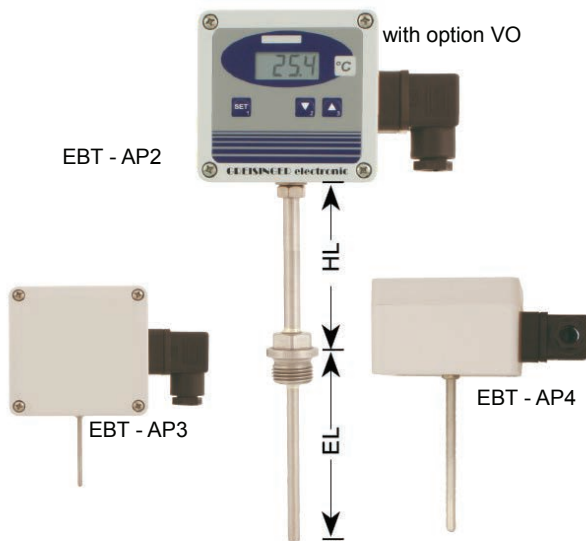
EBT -  1. -  2. -  3. -  4. -  5. -  6.

<b>1. Design type</b>	
IF1	without thread
IF2	with thread
IF3	with thread and neck tube
<b>2. Measuring range</b>	
MB1	-30.0..+100.0 °C (standard IF1 / IF2)
MB2	-70.0..+400.0 °C (standard IF3)
MBx	state desired measuring range separately (e.g.: -50..200 °C) max. possible meas. range: -200..+500 °C
<b>3. Fitting length EL</b>	
050	50 mm (standard IF3)
100	100 mm (standard IF1 and IF2)
xxx	any EL in mm (e.g. 075 = 75 mm)
<b>4. Probe diameter D</b>	
D4	Ø 4 mm
D5	Ø 5 mm
D6	Ø 6 mm (standard)
D8	Ø 8 mm
<b>5. Thread (only at design type IF2 and IF3)</b>	
G1	G ½ (standard)
G2	G ¼
G3	G ¾
G4	G ⅙
G5	G ⅙
M8	M8
M0	M10
M4	M14
<b>6. Neck tube length HL (only at design type IF3)</b>	
100	100 mm (standard)
xxx	any HL in mm (e.g. 050 = 50 mm)



# Temperature Module

## EBT - AP1 / EBT - AP2 / EBT - AP3 / EBT - AP4 / EBT - AP5



- Internal Pt1000 sensor
- Robust ABS housing
- Long-term temperature monitoring

### Characteristics

The EBT - AP is used for long-term temperature monitoring. The sensor module is particularly suitable for industrial applications due to its robust design.

The temperature is measured by the internal Pt1000 sensor, the measuring values and min-/max- values can be read out via EASYBus interface.

The housing of the module is made of robust ABS. For example fitting length or probe tube diameter of the probes can be modified according to customer preferences. Direct configuration is possible for devices with option VO (on-site display). Additionally there is the possibility to configure the modules by means of the EASYBus-Configurator software.

### Design types

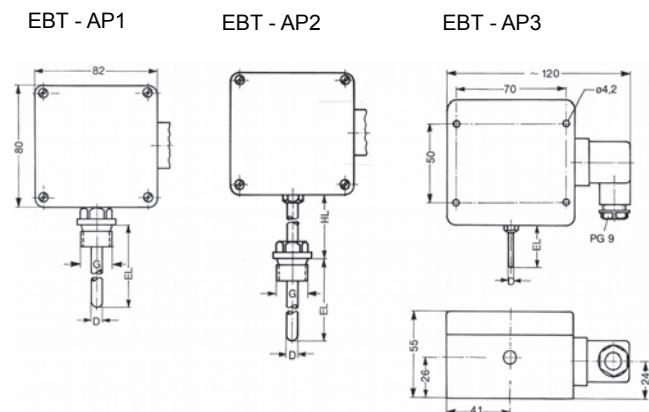
<b>EBT - AP1</b>	with thread G for direct screw-in
<b>EBT - AP2</b>	for higher temperatures, with thread G in distance to housing, with neck tube length HL
<b>EBT - AP3</b>	indoor / outdoor module for wall mounting <i>(varnished electronics necessary for outdoor application)</i>
<b>EBT - AP4</b>	duct probe with centrally mounted sensor tube pointing downwards

<b>EBT - AP5</b>	Transmitter for already existing Pt1000 sensors or if housing has to be in distance to sensor (e.g. due to very high ambient temperatures or constructional necessities)
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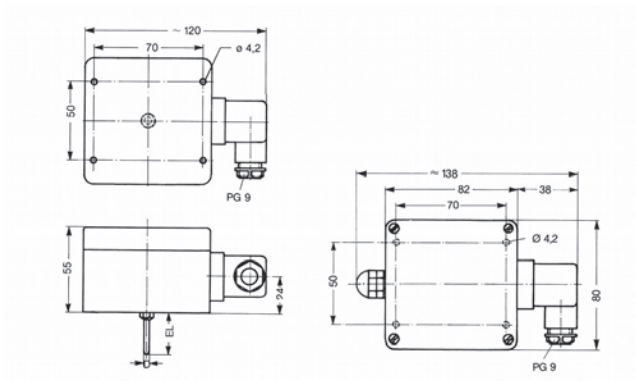
### Technical data

	EBT-AP1	EBT-AP2	EBT-AP3	EBT-AP4	EBT-AP5
Measuring range [°C]	-50.0..+150.0	-50.0..+400.0	-50.0..+150.0	-50.0..+150.0	-199.9..+650.0
Sensor	Pt1000				
Accuracy	sensor: DIN class B (optional: 1/3 DIN class B) electronics: ±0.2 % of m.v. ±0.2 °C				
Sensor connection					2-wire
Working temperature	0..70 °C (electronics)				
Electric connection	elbow-type plug EN 175301-803/A				
Process connection (standard)	thread G ½		—	—	—
Fitting length (standard)	EL = 100 mm	EL = 100 mm	EL = 50 mm	EL = 100 mm	—
Neck tube length (standard)	—	HL = 50 mm	—	—	—
Diameter Ø (Standard)	D = 6 mm	D = 6 mm	D = 3 mm	D = 6 mm	—
Housing	ABS; probe V4A				
Protection class	IP65				
Bus load	1.5				

### Dimensions



continued on next page



EBT - AP4

EBT - AP5

**Ordering code**

EBT -  -  -  -  -  -

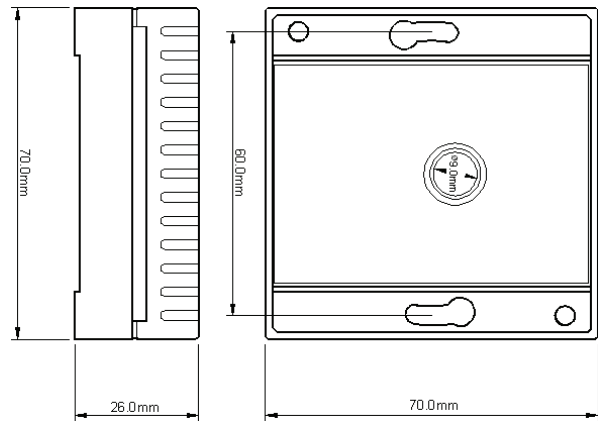
<b>1. Design type</b>	
AP1	with thread, without neck tube
AP2	with thread, with neck tube
AP3	indoor / outdoor probe
AP4	duct design
AP5	for connection of external probes
<b>2. Fitting length EL (only for types AP1, AP2, AP3, AP4)</b>	
050	50 mm (standard for AP3)
100	100 mm (standard for AP1, AP2, AP4)
xxx	any EL in mm e.g. 070 = 70 mm
<b>3. Probe diameter D (only for types AP1, AP2, AP3, AP4)</b>	
03	Ø 3 mm (standard AP3)
04	Ø 4 mm
05	Ø 5 mm
06	Ø 6 mm (standard AP1/2/4)
08	Ø 8 mm
<b>4. Thread (only for types AP1 and AP2)</b>	
G1	G ½ (standard)
G2	G ¼
G5	G ⅜
M5	M5
M6	M6
M8	M8
M0	M10
M2	M12
<b>5. Length of neck tube HL (only for types AP2)</b>	
050	50 mm (standard)
xxx	any HL in mm (e.g.: 100 = 100 mm)
<b>6. Option (combination of multiple options upon request)</b>	
00	without option
VO	on-site display (display + operating buttons)
LACK	board varnished on both sides (for outdoor usage)
1/3B	higher sensor accuracy ⅓ DIN class B

# Temperature Module EBT - 2R / EBT - 2RE



Working temperature	-25..+50 °C (electronics)
Electric connection	2-pole screw terminal, max. 1.5 m <sup>2</sup>
Housing	shapely surface-mounted housing, suitable for flush-type boxes
Protection class	IP20 (housing)
Bus load	1.5

## Dimensions



- Internal or external sensor
- Robust ABS housing
- Indoor climate monitoring

## Characteristics

The EBT - 2R /2RE is used for long-term temperature monitoring, indoor climate monitoring and monitoring of storage rooms.

The temperature is measured by the internal Pt1000 sensor (EBT - 2R) or external Pt1000 probe (EBT - 2RE), the measuring values and min-/max- values can be read out via EASYBus interface.

The housing of the module is made of robust ABS. Modules are available with or without on-site display. The modules can be configured by means of the EASYBus-Configurator software. Additional direct configuration is possible for devices with option VO (on-site display). The control panel is accessible when the cover is removed.

## Technical data

	EBT - 2R	EBT - 2RE
Temperature probe	Integrated in housing	external sensor (V4A / Ø 5 x 50 mm, 1 m silicone cable)
Measuring range	-25.0..+70.0 °C	-50.0..+150.0 °C
Sensor element	Pt1000	
Accuracy	sensor: DIN class B electronics: ±0.4 % of m.v. ±0.3 °C	

## Mounting



Suitable for mounting on all 55 mm flush-type boxes.

## Ordering code

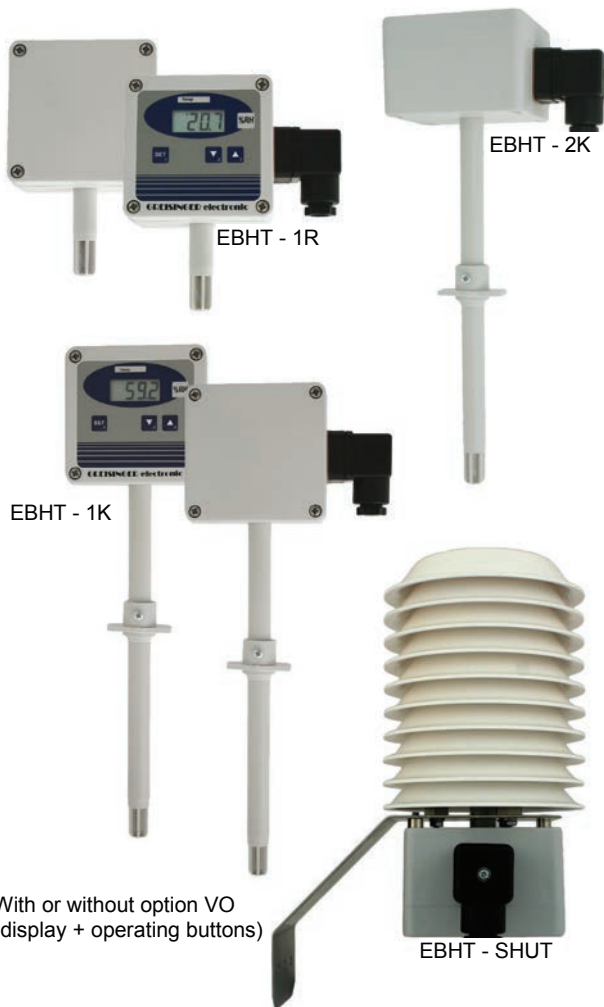
EBT -  -

1. Design type	
2R	with internal sensor
2RE	with external sensor
2. Options	
00	without option
VO	on-site display (display + operating buttons)

# Humidity / Temperature Module

## EBHT - 1K / 1R / 2K

## EBHT - KABEL / SHUT



With or without option VO (display + operating buttons)

- Capacitive polymer humidity sensor
- Robust ABS housing
- Indoor climate monitoring

### Characteristics

The EBHT is used for long-term monitoring, indoor climate monitoring and monitoring of storage rooms. The sensor module is particularly suitable for industrial applications due to its robust surface-mounted housing.

The EASYBus sensor modules EBHT measure the temperature and relative humidity in air or non corrosive / non ionizing gases. Humidity and temperature are measured by a capacitive polymer humidity sensor and a Pt1000 sensor, the measuring values and min-/max- values can be read out via EASYBus interface.

The housing of the module is made of robust ABS. Modules are

available with or without on-site display. Direct configuration is possible for devices with option VO (on-site display). Additionally there is the possibility to configure the modules by means of the EASYBus-Configurator software.

### Design types

	1K	1R	2K	KABEL	SHUT
Design type	surface / duct design	surface design	duct design	surface design with cable	surface design with weather proofing
Length of probe / cable / hat	EL = 220 mm	EL = 50 mm	EL = 220 mm	1 m Teflon cable, in distance to housing	Hat = 82 mm
outlet probe / cable	on the side	on the side	bottom	on the side	bottom

### Other features

- 1K / 1R / 2K : unscrewable protective cap with gauze filter insert made of stainless steel
- KABEL : includes high humidity sensor (HO) and varnished board (LACK) by default
- SHUT : weather protection shield made of plastic, reduces distortions by sun or rain, includes high humidity sensor (HO) and varnished board (LACK)

### Technical data

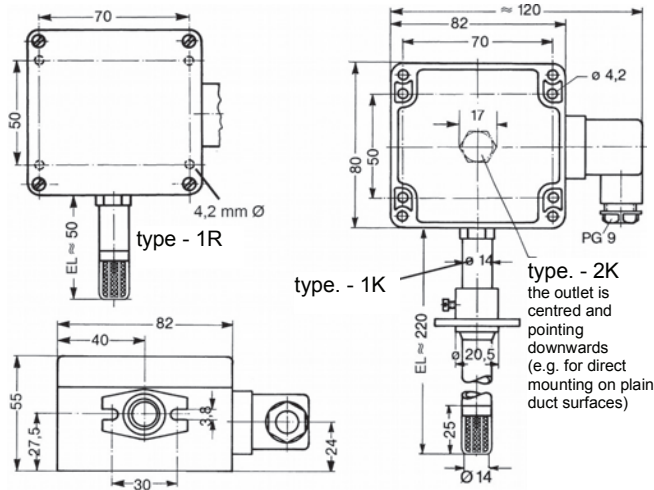
Measuring ranges Humidity: Standard High humidity	0.0..100.0 % RH recomm. measuring range: 30..80 % RH recomm. measuring range: 5..95 % RH
Temperature	-40.0..+120.0 °C
Measuring sensors	capacitive polymer humidity sensor and Pt1000
Accuracy Humidity	±2.5 % RH (at recomm. measuring range)
Accuracy Temperature	sensor: DIN class B electronics: ±0.4 % of m.v. ±0.2 °C
Working temperature	-25..+50 °C (electronics) -40..+100 °C, briefly up to 120 °C (sensor / probe tube)
Electric connection	elbow-type plug EN 175301-803/A, output 2-wire, max. 1.5 mm <sup>2</sup> each
Housing	ABS
Protection class	IP65 (housing)
Bus load	1.5

continued on next page

### Dimensions

EBHT - 1K / 1R / 2K : 82 x 80 x 55 mm (H x W x D)

- KABEL : (without probe/plug)  
tube-Ø 14 mm  
: 82 x 80 x 55 mm (H x W x D)  
(without probe/plug)  
probe tube in distance to housing,  
sensor head (Ø 14 x 68 mm)
- SHUT : 82 x 80 x 55 mm ((H x W x D)  
(without probe/plug)  
shield Ø 110 mm, height 140 mm



**Ordering code**

1. 2. 3. 4.  
EBHT -  -  -  -

<b>1. Design type</b>	
1K	Surface / duct design
1R	Surface design
2K	Duct design
KABEL	Surface design with cable (incl. HO + LACK)
SHUT	Weather protective shield / heat-protective hat (incl. HO + LACK)
<b>2. Option (sensor)</b>	
00	standard sensor (standard for 1K, 1R and 2K) (recomm. measuring range: 30..80 % RH)
HO	high humidity (standard for KABEL and SHUT) (recomm. measuring range: 5..95 % RH)
<b>3. Fitting length EL</b>	
000	without fitting length (for KABEL / SHUT)
050	length = 50 mm (standard for type 1R)
220	length = 220 mm (standard for type 1K / 2K)
300	length = 300 mm
400	length = 400 mm
500	length = 500 mm
<b>4. Option (general) (combination of multiple options possible)</b>	
00	without option
VO	on-site display (display + operating buttons)
LACK	board varnished on both sides (for outdoor usage) standard for types KABEL and SHUT
UNI	selectable humidity display unit Instead of displaying and output the standard humidity value you can change to one of the following values via interface or VO-display: <ul style="list-style-type: none"> <li>wet bulb temperature</li> <li>dew point temperature</li> <li>enthalpy</li> <li>atmospheric humidity</li> <li>absolute humidity</li> </ul>

Ordering example:  
EBHT-KABEL-HO-000-VO-LACK

# Humidity / Temperature Module EBHT - 2R



EBHT - 2R



With or without display  
(option VO)

- Capacitive polymer humidity sensor
- Robust ABS housing
- Indoor climate monitoring

## Characteristics

The EBHT - 2R is used for long-term monitoring, indoor climate monitoring and monitoring of storage rooms.

The EASYBus sensor modules EBHT - 2R measure the temperature and relative humidity in air or non corrosive / non ionizing gases. Humidity and temperature are measured by a capacitive polymer humidity sensor and a Pt1000 sensor, the measuring values and min-/max- values can be read out via EASYBus interface.

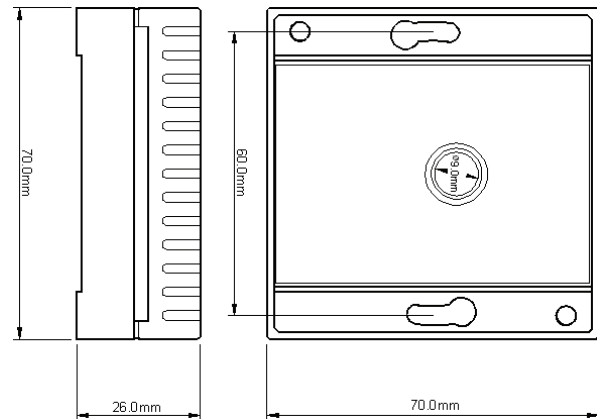
The housing of the module is made of robust ABS. Modules are available with or without on-site display. Direct configuration is possible for devices with option VO (on-site display). Additionally there is the possibility to configure the modules by means of the EASYBus-Configurator software.

## Technical data

Measuring ranges Humidity: Standard High humidity	0.0..100.0 % RH recomm. range: 30..80 % RH recomm. range: 5..95 % RH
Temperature	-25.0..+70.0 °C
Measuring sensors	capacitive polymer humidity sensor and Pt1000
Accuracy Humidity	±2.5 % RH (at recomm. measuring range)
Accuracy Temperature	sensor: DIN class B electronics: ±0.4% of m.v. ±0.3°C
Working temperature	-25..+50 °C (electronics)
Electric connection	2-pole screw terminal, max. 1.5 mm <sup>2</sup>

Housing	ABS
Protection class	IP20
Bus load	1.5

## Dimensions



## Mounting



Suitable for mounting on all 55 mm flush-type boxes.

## Ordering code

EBHT-2R -  1. -  2.

<b>1. Option (sensor)</b>	
00	standard sensor (recomm. measuring range: 30..80 % RH)
HO	high temperature sensor (recomm. measuring range: 5..95 % RH)
<b>2. Option (general) (combination of multiple options possible)</b>	
00	without option
VO	on-site display (display + operating buttons)
UNI	selectable humidity display unit Instead of displaying and output the standard humidity value you can change to one of the following values via interface or VO-display: <ul style="list-style-type: none"> <li>• wet bulb temperature</li> <li>• dew point temperature</li> <li>• enthalpy</li> <li>• atmospheric humidity</li> <li>• absolute humidity</li> </ul>

## Carbon Dioxide Module EBG - CO<sub>2</sub> - 1R



- Infrared principle (NDIR)
- Long-term stability
- Monitoring the CO<sub>2</sub>-limit

### Characteristics

The EBG - CO<sub>2</sub> - 1R is used for ventilation control, indoor air quality monitoring and measurement of carbon dioxide in greenhouses.

The EASYBus sensor modules EBG - CO<sub>2</sub> - 1R measure the carbon dioxide content of air. The sensor functions on the infrared principle (NDIR), the measuring values can be read out via EASYBus interface. Min-/max- values are stored at the device memory.

The housing of the module is made of robust ABS. The modules have a display by default, showing the current CO<sub>2</sub> concentration and min-/max- values. Additionally it can be used for optical alarm displaying.

The module is configured directly via device's buttons.

### Technical data

Measuring range	0..2000 ppm CO <sub>2</sub>
Measuring method	infrared principle (NDIR)
Accuracy	±50 ppm ±2 % of measuring value
Working temperature	-10..+40 °C
Power supply	12..30 V DC, max. 600 mA
Interface	EASYBus interface
Electric connection	elbow-type plug EN 175301-803/A, max. cable cross section 1.5 mm <sup>2</sup>
Housing	ABS
Protection class	IP20
Bus load	1

### Dimensions

Housing : 82 x 80 x 55 mm (H x W x D)

### Ordering code

EBG-CO<sub>2</sub>-1R -  1.

1. Option	
00	without option
5000	Measuring range: 0..5000 ppm CO <sub>2</sub>

## Carbon Monoxide Module EBG - CO - 1R



- Electrochemical measuring cell
- Automatic offset correction
- Monitoring of CO limits

### Characteristics

The EBG - CO - 1R is used for monitoring of carbon monoxide in underground and parking garages, boiler plants, heating systems, garages as well as in ambient air.

The EASYBus sensor modules EBG - CO - 1R measure the carbon oxide content of air. The measuring values are continuously collected by an electrochemical measuring cell and can be read out via EASYBus interface.

The housing of the module is made of robust ABS. The modules can be optionally equipped with a display.

### Technical data

Measuring range	0..300 ppm CO
Measuring method	electrochemical principle, continuous measurement
Linearity error	≤2 % of 300 ppm CO (acc. to VDI 2053)
Working temperature	-10..+50 °C
Power supply	12..30 V DC, max. 50 mA
Interface	EASYBus interface
Electric connection	elbow-type plug EN 175301-803/A, max. cable cross section 1.5 mm <sup>2</sup>
Housing	ABS
Protection class	IP20
Bus load	2

### Dimensions

Housing : 82 x 80 x 55 mm (H x W x D)

### Ordering code

EBG-CO-1R -  1.

1. Option	
00	without option
VO	on-site display (display + operating buttons)

# Standard Signal Module EBN / K and EBN / W



- For standard signals: 0..2V / 0..10V / 0..20mA / 4..20mA
- Long-term monitoring

## Characteristics

The EBN / W and EBN / K are used for long-term monitoring of standard signals. With the help of the norm signals further measurands like pressure or conductivity can be processed..

The standard signals (0..2 V / 0..10 V / 0..20 mA / 4..20 mA) are measured by means of an input resistor. By the use of measurand transducer with norm signal exit arbitrary measurands can be tied into the EASYBUS system.

The housing of the module is made of robust ABS. The modules can be configured by means of the EASYBus-Configurator software.

## Technical data

	EBN / K - ...	EBN / W - ...
Measuring range	-1999..+9999 digit (freely scalable)	
Input signal	0..2 V / 0..10 V / 0..20 mA / 4..20 mA (only one range possible, either .. or ..) not galvanically separated	
Accuracy	±0.5 % FS (at nominal temperature)	
Working temperature	-25..+60 °C	
Interface	EASYBus interface, fixed 2-pole cable, cable length = 1 m	
Electric connection	Via 0.5 m cable for connection to standard signal source, loose ends	elbow-type plug (EN 175301-803/A) for plug-between
Housing	ABS	
Protection class	IP65	
Bus load	2	

## Dimensions

Housing : 48.5 x 48.5 x 35.5 mm (H x W x D)  
(without elbow-type plug / cable)

## Ordering code

EBN/  1.  2.  3.

<b>1. Design type</b>	
K	cable connection
W	elbow-type plug
<b>2. Input signal</b>	
E1	0..2 V
E2	0..10 V
E3	0..20 mA
E4	4..20 mA
<b>3. Option</b>	
00	Without option
VO	on-site display (display)



# Climate Logger EASYLOG 80CL



- High battery capacity for long recording duration
- Data memory for 250,000 data sets
- Long-term monitoring of climate data

## Characteristics

The logger EASYLog 80CL is designed for long-term monitoring of climate data, particularly for monitoring of greenhouses or for the usage at heating engineering, ventilation technology and air conditioning.

Besides temperature, relative humidity and air pressure the following units can be displayed: wet bulb temperature, dew point temperature, enthalpy and atmospheric humidity. Up to 250,000 measuring values can be saved for each unit (**altogether 1,000,000 values**)

Both, the low power consumption and the high battery capacity ensure long recording time. The LCD display shows 2 different measuring values (e.g. temperature and humidity at the same time) or the operating mode of the logger. The device has a splash-proof industrial housing.

## Technical data

Measuring and display range	0.0..100 % RH (recomm.: 10..90 % RH) -25.0..+60.0 °C 300.0..1100.0 hPa
Accuracy	±2 % (humidity) ±0.3 °C ± 0.017 x (T-25 °C) (temperature) ±1.0 hPa (air pressure)
Working temperature	-25..+60 °C (electronics)
Measuring sensors	humidity/temp.: sensor mounted in tube air pressure: sensor integrated in housing
Additional available display units	wet bulb temperature dew point temperature enthalpy atmospheric humidity absolute humidity
Probe tube design	polyamide, Ø15 mm, fixed to unscrewable plastic protection head for fast response

Storage capacity	250.000 data sets (in max. 64 recording sequences)
Recording	interval: 4 sec. to 5 h
Display	two 4 ½ -digit LCD displays
Power supply	battery operation, service life approx. 6 years (at 15 min recording interval)
Interface	EASYBus interface, 3-pin mini built-in plug
Housing	ABS
Protection class	housing: IP65 protection head: IP40
Bus load	2

## Dimensions

Housing : 48.5 x 48.5 x 35.5 mm (H x W x D)  
(without sensor / cable)

## Ordering code

EASYLOG 80CL -  1.

1. Option	
00	without option
ALARM	additional alarm output open-collector-output, 4-pin mini built-in plug (IP65) incl. 1 m connection cable, max. switching power: 28 V, 50 mA

## Necessary accessories

The EASYLog 80CL is programmed, started and read via its EASYBus interface. Following accessories are required:

- interface converter  
RS232 – EASYBus: EBW 1, EBW 64, EBW 240  
or USB – EASYBus: EBW 3
- GSOF 40K (as of Version 5.0) to start logger and read logger data incl. 1x EBSK 01 connection cable
- EBSK 01 / EBSK 03 (1m or 3m): connection cable from interface converter to EASYLog

**Note:** 1x EBSK 01 (1m) is in scope of delivery of software software GSOF 40K.

# Standard Signal Logger EASYLog 40NS K EASYLog 40NS W



- High battery capacity for long recording duration
- Data memory for 48,000 values
- Long-term monitoring of standard signals

## Characteristics

The logger EASYLog 40NS .. (4..20 mA, 0..20 mA, 0..2 V or 0..10 V) are designed for long-term monitoring of standard signals. It can be used for example as replacement expensive recorders.

Up to 48,000 measuring values can be stored in the memory. The data stays saved even in case of battery defect.

Both, the low power consumption and the high battery capacity ensure long recording time. The LCD display shows the current measuring value and the operating mode of the logger. The device has a splash-proof industrial housing.

## Technical data

	EASYLog 40NS K	EASYLog 40NS W
Electric connection	PG screwing and connection cable	elbow-type plug (DIN EN 175301-803/A)
Input signal	4..20 mA / 0..20 mA / 0..2 V / 0..10 V (one signal only)	
Display range	-1999..9999 digit (free programmable)	
Decimal point	any position	
Accuracy	± 0.5 % FS (at nominal temperature)	
Working temp.	-25..+60 °C (electronics)	
Storage capacity	48.000 measured values	
Recording	interval 2 sec. to 5 h / duration 500 days (at 15 min recording interval)	

Power supply	battery operation, service life approx. 6 years (at 15 min recording interval)
Interface	EASYBus interface, 3-pin mini built-in plug
Housing	ABS
Protection class	housing: IP65
Bus load	2

## Dimensions

Housing : 48.5 x 48.5 x 35.5 mm (H x W x D)  
(without cable / elbow-type plug)

## Ordering code

EASYLOG 40NS  1. -  2. -  3.

<b>1. Design type</b>	
K	cable connection
W	elbow-type plug
<b>2. Input signal</b>	
E1	0..2 V
E2	0..10 V
E3	0..20 mA
E4	4..20 mA
<b>3. Options (combination of multiple options upon request)</b>	
00	without option
DBK	double battery capacity (recommended for fast measuring rates)
ALARM	additional alarm output open-collector-output, 4-pin mini built-in plug (IP65) incl. 1 m connection cable, max. switching power: 28 V, 50 mA

## Necessary accessories

The EASYLog 40NS.. is programmed, started and read via its EASYBus interface. Following accessories are required:

- interface converter  
RS232 – EASYBus: EBW 1, EBW 64, EBW 240  
or USB – EASYBus: EBW 3
- GSOFTE 40K (as of Version 5.0) to start logger and read logger data incl. 1x EBSK 01 connection cable
- EBSK 01 / EBSK 03 (1m or 3m): connection cable from interface converter to EASYLog

**Note:** 1x EBSK 01 (1m) is in scope of delivery of software software GSOFTE 40K.

# Universal Display Device GIA 2000



- Universal input for standard signals, frequency, Pt100/Pt1000 and thermocouples
- Electrically isolated power supply for transmitter
- Serial EASYBus interface

## Characteristics

The GIA 2000 is microprocessor-controlled display device for universal use.

The device has a universal input for standard signals (0..20 mA, 4..20 mA, 0..50 mV, 0..1 V, 0..2 V and 0..10 V), resistance thermometers (Pt100 and Pt1000), thermocouples (type J, K, N, S and T) and frequency (TTL and switch contact). Additionally it provides functions like flow measurement, rotation speed measurement and counter.

The lowest and highest measured values are saved in the min-/max value memory. The device can detect invalid operating states and display or system errors and displays the corresponding error code.

## Technical data

### Measuring inputs

Standard signals : 0..20 mA, 4..20 mA, 0..50 mV, 0..1 V, 0..2 V and 0..10 V

Resistance thermometer : Pt100 (3-wire), Pt1000 (2-wire)

Thermocouples : type J, K, N, S, T

Frequency, rotation speed

Flow

Up/down counter

Serial interface

### Display

Display : LED display

Height : 13 mm

Display range : -1999..9999 digit, initial / final value and decimal point freely selectable

Operation : via 4 buttons or via interface

Power supply for transmitter : 24 V DC  $\pm 5\%$ , 22 mA, elec. isolated at DC-supply: 18 V DC

Working temperature : -20..+50°C

Electric connection : via screw / clamp terminals cable cross section: 0.14..1.5 mm<sup>2</sup>

Protection class : front IP54, with optional sealing: IP65

Bus load : 1

## Dimensions

### Housing

Size : 48 x 96 mm (H x W)

Mounting depth : 115 mm

(incl. screw / clamp terminals)

Panel mounting : by fixing clamps

Panel cutout : 43.0 x 90.5 [ $\pm 0.5$  mm] (H x W)

## Power supplies / outputs

230A	supply voltage: 230 V AC (standard)
012D	supply voltage: 12 V DC (11..14 V)
024D	supply voltage: 24 V DC (22..27 V)
024A	supply voltage: 24 V AC ( $\pm 5\%$ )
115A	supply voltage: 115 V AC ( $\pm 5\%$ )
AA	analog output 0..20 mA, 4..20 mA (selectable)
AV	analog output 0..10 V

## Ordering code

GIA2000 -  1. -  2. -  3.

1. Supply voltage	
230A	230 V AC (standard)
012D	12 V DC
024D	24 V DC
024A	24 V AC
115A	115 V AC
2. Analog output	
00	without analog output (standard)
AA	analog output 0..20 mA, 4..20 mA
AV	analog output 0..10 V
3. Option	
00	without option
IP	sealing to increase protection class to IP65

## Special design types (upon request)

- S1 **Switchable scaling**  
with input 0..10 V and control input 24 V. The device has a 0..10 V standard signal input and a 24 V control input. By means of the 24 V control input it can be switched between two freely programmable scalings.
- S2 **Input  $\pm 10$  V DC**
- S3 **Set-point device**  
The GIA 2000 with S3 is a universally applicable, microprocessor-controlled set-point device. The output value can be set by buttons 2 and 3.

## Accessories

- EAK 36  
Unit stickers (black with white characters), 36 different units, for labeling of display devices

# Universal Measuring and Regulating Device GIR 2002



- Microprocessor-controlled display, monitoring and regulating device
- Universal input for standard signals, frequency, Pt100/Pt1000 and thermocouples
- Switching outputs variably configurable

## Characteristics

The GIR 2002 is particularly suitable for less complex control systems.

The GIR 2002 is a microprocessor-controlled displaying, monitoring and regulating device for universal use. It has a universal input for standard signals (0..20 mA, 4..20 mA, 0..50 mV, 0..1 V, 0..2 V and 0..10 V), resistance thermometers (Pt100 and Pt1000), thermocouples (type J, K, N, S and T) and frequency (TTL and switch contact). Additionally it provides switching outputs whose switching functions can be configured variably.

The device has an EASYBus interface by default that makes the GIR 2002 to a full-fledged EASYBus module. An additional interface converter allows communicating with a PC.

## Technical data

### Measuring inputs

Standard signals : 0..20 mA, 4..20 mA, 0..50 mV, 0..1 V, 0..2 V and 0..10 V  
 Resistance thermometer : Pt100 (3-wire), Pt1000 (2-wire)  
 Thermocouples : type J, K, N, S, T  
 Frequency, rotation speed  
 Flow  
 Up/down counter  
 Serial interface

### Output functions

Control mode : On / OFF  
 Switching functions : display, 2-point, 3-point, 2-point with min-/max-alarm, min-/max-alarm

### Display

Display : LED display  
 Height : 13 mm  
 Display range : -1999..+9999 digit, initial / final value and decimal point freely selectable  
 Operation : via 4 buttons or via interface

Power supply for transmitter : 24 V DC  $\pm 5\%$ , 22 mA, elec. isolated at DC-supply: 18 V DC  
 Working temperature : -20..+50 °C  
 Electric connection : via screw / clamp terminals cable cross section: 0.14..1.5 mm<sup>2</sup>  
 Protection class : front IP54, with optional sealing: IP65  
 Bus load : 1

## Dimensions

Size : 48 x 96 mm (H x W)  
 Mounting depth : 115 mm (incl. screw / clamp terminals)  
 Panel mounting : by fixing clamps  
 Panel cutout : 43.0 x 90.5 [ $\pm 0.5$  mm] (H x W)

## Design types / options

230A	supply voltage: 230 V AC (standard)
012D	supply voltage: 12 V DC (11..14 V)
024D	supply voltage: 24 V DC (22..27 V)
024A	supply voltage: 24 V AC ( $\pm 5\%$ )
115A	supply voltage: 115 V AC ( $\pm 5\%$ )
R1	output 1 = potential-free relay switching output (normally-open contact, 5 A / 250 V AC)
H1	output 1 = control output for external semiconductor relay (15 mA / 6 V DC)
R2	output 2 = potential-free relay switching output (change-over contact, 10 A / 250 V AC)
H2	output 2 = control output for external semiconductor relay (15 mA / 6 V DC)
R3	additional output 3 = potential-free relay switching output (change-over, 1 A / 40 V AC o. 30 V DC)
H3	additional output 3 = control output for external semiconductor relay (5 mA / 14 V DC)
N3	additional output 3 = elec. isolated npn switching contact (max. 1 A / 30 V DC)
AA1	output 1 = freely scalable analog output 0(4)..20 mA no additional 3 <sup>rd</sup> output possible
AV1	output 1 = freely scalable analog output 0..10 V kein no additional 3 <sup>rd</sup> output possible
AA3	output 3 = freely scalable analog output 0(4)..20 mA
AV3	output 3 = freely scalable analog output 0..10 V
NS/DIF	<b>2-channel differential controller</b> The GIR 2002 NS/DIF ... is a displaying, monitoring and regulating device for difference measurements. The measuring inputs are designed for following standard signals: (2x) 4..20 mA, (2x) 0..20 mA or (2x) 0..10 V Please state your desired input signal at order transaction.
SW	<b>Set-point controller</b> This design type uses the 0..10 V standard signal input as set-point input.

continued on next page

### Ordering code

GIR2002 -  -  -  -  -

1. Supply voltage		
230A	230 V AC (standard)	
012D	12 V DC	
024D	24 V DC	
024A	24 V AC	
115A	115 V AC	
2. Output 1		
R1	output 1 = relay switching output, normally-open contact (standard)	
H1	output 1 = control output for semiconductor relay	
AA1	output 1 = analog output 0(4)..20 mA (no 3 <sup>rd</sup> output possible)	
AV1	output 1 = analog output 0..10 V (no 3 <sup>rd</sup> output possible)	
3. Output 2		
R2	output 2 = relay switching output, change-over contact (standard)	
H2	output 2 = control output for semiconductor relay	
4. Output 3		
00	no 3 <sup>rd</sup> output (standard)	
R3	output 3 = relay switching output, change-over contact	
H3	output 3 = control output for semiconductor relay	
N3	output 3 = NPN switching output	
AA3	output 3 = analog output 0(4)..20 mA	
AV3	output 3 = analog output 0..10 V	
5. Options		
00	without option	
NS/DIF	differential controller (please state meas. input)	
	420	4..20 mA
	020	0..20 mA
	010	0..10 V
SW	set-point controller	
IP	sealing to increase protection class to IP65	

### Accessories

- **EAK 36**  
Unit stickers (black with white characters), 36 different units, for labeling of display devices

# Universal Measuring and Regulating Device GIR 2002 PID



- **PID control mode**
- **Universal input for standard signals, frequency, Pt100/Pt1000 and thermocouples**
- **Switching outputs variably configurable**

## Characteristics

The GIR 2002 PID is particularly suitable for less complex control systems which require PID control.

The GIR 2002 PID is a microprocessor-controlled displaying, monitoring and regulating device for universal use. It has a universal input for standard signals (0..20 mA, 4..20 mA, 0..50 mV, 0..1 V, 0..2 V and 0..10 V), resistance thermometers (Pt100 and Pt1000), thermocouples (type J, K, N, S and T) and frequency (TTL and switch contact). Additionally it provides switching outputs whose switching functions can be configured variably.

The device has a EASYBus interface by default that makes the GIR 2002 PID to a full-fledged EASYBus module. A additional interface converter allows communicating with a PC.

## Technical data

### Measuring inputs

Standard signals : 0..20 mA, 4..20 mA, 0..50 mV, 0..1 V, 0..2 V and 0..10 V  
 Resistance thermometer : Pt100 (3-wire), Pt1000 (2-wire)  
 Thermocouples : type J, K, N, S, T  
 Frequency, rotation speed  
 Flow  
 Up/down counter  
 Serial interface

### Output functions

Control mode : PID  
 Switching functions : display, 2-point, 3-point, 2-point with min-/max-alarm, min-/max-alarm

### Display

Display : LED display  
 Height : 13 mm  
 Display range : -1999..+9999 digit, initial / final value and decimal point freely selectable  
 Operation : via 4 buttons or via interface

Power supply for transmitter : 24 V DC  $\pm 5\%$ , 22 mA, elec. isolated at DC-supply: 18 V DC  
 Working temperature : -20..+50 °C  
 Electric connection : via screw / clamp terminals cable cross section: 0.14..1.5 mm<sup>2</sup>  
 Protection class : front IP54, with optional sealing: IP65  
 Bus load : 1

## Dimensions

Size : 48 x 96 mm (H x W)  
 Mounting depth : 115 mm (incl. screw / clamp terminals)  
 Panel mounting : by fixing clamps  
 Panel cutout : 43.0 x 90.5 [ $\pm 0.5$  mm] (H x W)

## Design types / options

230A	supply voltage: 230 V AC (standard)
012D	supply voltage: 12 V DC (11..14 V)
024D	supply voltage: 24 V DC (22..27 V)
024A	supply voltage: 24 V AC ( $\pm 5\%$ )
115A	supply voltage: 115 V AC ( $\pm 5\%$ )
R1	output 1 = potential-free relay switching output (normally-open contact, 5 A / 250 V AC)
H1	output 1 = control output for external semiconductor relay (15 mA / 6 V DC)
R2	output 2 = potential-free relay switching output (change-over contact, 10 A / 250 V AC)
H2	output 2 = control output for external semiconductor relay (15 mA / 6 V DC)
R3	additional output 3 = potential-free relay switching output (change-over, 1 A / 40 V AC o. 30 V DC)
H3	additional output 3 = control output for external semiconductor relay (5 mA / 14 V DC)
N3	additional output 3 = elec. isolated npn switching contact (max. 1 A / 30 V DC)
AA3	output 3 = freely scalable analog output 0(4)..20 mA
AV3	output 3 = freely scalable analog output 0..10 V
SA1	output 1 = continuous output 0(4)..20 mA no additional 3 <sup>rd</sup> output possible
SV1	output 1 = continuous output 0..10 V no additional 3 <sup>rd</sup> output possible
SA3	output 3 = continuous output 0(4)..20 mA
SV3	output 3 = continuous output 0..10 V

continued on next page

## Ordering code

GIR2002PID -  1. -  2. -  3. -  4. -  5.

<b>1. Supply voltage</b>	
230A	230 V AC (standard)
012D	12 V DC
024D	24 V DC
024A	24 V AC
115A	115 V AC
<b>2. Output 1</b>	
R1	output 1 = relay switching output, normally-close contact (standard)
H1	output 1 = control output for semiconductor relay
SA1	output 1 = continuous output 0(4)..20 mA (no 3 <sup>rd</sup> output possible)
SV1	output 1 = continuous output 0..10 V (no 3 <sup>rd</sup> output possible)
<b>3. Output 2</b>	
R2	output 2 = relay switching output, change-over contact (standard)
H2	output 2 = control output for semiconductor relay
<b>4. Output 3</b>	
00	no 3 <sup>rd</sup> output (standard)
R3	output 3 = relay switching output, change-over contact
H3	output 3 = control output for semiconductor relay
N3	output 3 = NPN switching output
AA3	output 3 = analog output 0(4)..20 mA
AV3	output 3 = analog output 0..10 V
SA3	output 3 = continuous output 0(4)..20 mA
SV3	output 3 = continuous output 0..10 V
<b>5. Options</b>	
00	without option
PI	sealing to increase protection class to IP65

## Accessories

- **EAK 36**  
Unit stickers (black with white characters), 36 different units, for labeling of display devices

# Universal Measuring and Regulating Device GIA 20 EB



- Microprocessor-controlled display, monitoring and regulating device
- For universal use
- Switching outputs variably configurable

## Characteristics

The GIA 20 EB is particularly suitable for less complex control systems.

The GIA 20 EB is a microprocessor-controlled displaying, monitoring and regulating device for universal use. It has a universal input for standard signals (0..20 mA, 4..20 mA, 0..50 mV, 0..1 V, 0..2 V and 0..10 V), resistance thermometers (Pt100 and Pt1000), thermocouples (type J, K, N, S and T) and frequency (TTL and switch contact). Additionally it provides switching outputs whose switching functions can be configured variably.

The device has a EASYBus interface by default that makes the GIA 20 EB 2002 to a full-fledged EASYBus module. A additional interface converter allows communicating with a PC.

## Technical data

### Measuring inputs

Standard signals : 0..20 mA, 4..20 mA, 0..50 mV, 0..1 V, 0..2 V and 0..10 V  
 Resistance thermometer : Pt100 (3-wire), Pt1000 (2-wire)  
 Thermocouples : type J, K, N, S, T  
 Frequency, rotation speed  
 Flow  
 Up/down counter  
 Serial interface

Control mode : Low-Side, High-Side, Push-Pull  
 Switching outputs : 2 (integrated)  
 Switching functions : display, 2-point, 3-point, 2-point with min-/max-alarm, min-/max-alarm

### Display

Display : 4-digit LED display  
 -1999..+9999 digit, freely scalable  
 (for standard signals)

Operation : via 3 buttons  
 (after disassembly of front panel)

Power supply : 9..28 V DC  
 Interface : EASYBus interface, elec. isolated  
 Working temperature : -20..+50 °C

Electric connection : via screw / clamp terminals  
 cable cross section: 0.14..1.5 mm<sup>2</sup>  
 Protection class : front IP54,  
 Bus load : 1

## Dimensions

Size : 24 x 48 x 65 mm (H x W x D)  
 (incl. screw / clamp terminals)  
 Panel mounting : with VA-spring clamp  
 Panel cutout : 21.7 x 45.0 [±0.5 mm] (H x W)

## Ordering code

GIA20EB -  1. -  2.

1. Supply voltage	
000	9..28 V DC (Standard)
IS1	Elec. isolated supply: 11..14 V
IS2	Elec. isolated supply: 22..27 V
2. Options	
00	without option
FS3T	front panel with buttons



# Switching Module EBB .. OUT / ..



- 2 bi-stable switching contacts (type BP)
- No additional power supply needed (type BP)
- Functional snap-on housing

## Characteristics

The EBB .. OUT / .. is used for decentralized control and regulating systems.

The switching module serves the control of relays by means of EASYBus. The 2 / 4 relays are controlled via alarm monitor module or via the PC software EASYControl net.

The module is available in design type BP (bus powered) which doesn't need a separate power supply or in type 12V (12 V DC power supply).

## Technical data

Switching capacity	250 V AC / 16 A
Connection	screw clamps
Control	via EBUW 232 A or software EASYControl net

## Design types

	EBB 2 OUT / BP	EBB 4 OUT / BP	EBB 2 OUT / 12V	EBB 4 OUT / 12V
Power supply	device is supplied from EASYBus		12 V DC ±10 % / 150 mA	
Switching output	2 change-over contacts	4 change-over contacts	2 change-over contacts	4 change-over contacts
Response time	< 1 sec.	< 2 sec.	< 0.1 sec.	0.1 sec.
Bus load	2	2	1	1

## Dimensions

Housing : 96 x 48 x 60 mm (H x W x D)

## Ordering code

1. 2.  
EBB  OUT/

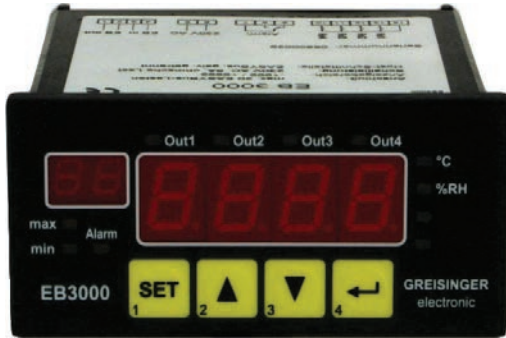
1. Switching outputs	
2	2 switching outputs
4	4 switching outputs
2. Power supply	
BP	bus powered (without external supply)
12V	12 V DC supply

## Necessary accessories

The following accessories are needed:

- alarm monitor module EBUW 232 A (p.r.t. accessories)
- software EASYControl net

# EASYBus Device for Regulating, Displaying and Monitoring EB 3000



- Alarm monitoring and regulating of 20 channels
- Several calculation functions
- Diverse control modes

## Characteristics

The EB 3000 is used for regulating or alarm monitoring of up to 20 modules.

The EB 3000 is an universal regulating, displaying and monitoring device for EASYBus sensor modules.

Any EASYBus measuring channel can be allocated to the 20 channels which the EB 3000 provides. Additionally there are 2 virtual channels. This allows performing several calculation functions and displaying the result. Possible functions are for example sensor difference, averaging of x sensors or set-point control. The EB 3000 has 4 switching outputs and 1 alarm output. The 22 channels can be freely allocated to the 4 switching outputs. Therefore several control modes (2-point control, 3-point control, stepping switch, etc.) can be realized.

The EB 3000 has a self-diagnostic function checking error-free operation, sensor break, etc. and outputs a corresponding error message as the case may be. For advanced configuration and start-up of the EB 3000 the gratis software EASYBus-Configurator is needed.

## Technical data

Input	max. 30 bus loads max. 20 modules addressable
Connection	all EASYBus/EASYLog sensor modules can be connected via 2-pole connection wire in ring, tree or star form; sensors are supplied by EB 3000
Permitted EASYBus length	500 m (depending on wiring )
Display range	-1999..+9999 Digit 4-digit LED (measuring value), 2-digit LED (channel)

Switching outputs	4 normally-open contact
Switching functions	2-point controller, shift points, switching delay individually adjustable for each output
Alarm output	1 change-over contact
Alarm functions	Sammelalarm für alle Sensoren, Alarmgrenzen veränderbar
Sensor interface	EASYBus
PC interface	EASYBus
Power supply	230 V AC, 50/60 Hz
Working temperature	-25..+50 °C
Functions	alarm, min-/max- value memory, calculation functions, self-diagnostic
Housing	ABS
Protection class	front IP54, with optional sealing:IP65
Bus load (EB input)	1

## Dimensions

Size	: 48 x 96 x 100 mm (H x W x D)
Panel mounting	: by fixing clamps
Panel cutout	: 43.0 x 90.5 [±0.5 mm] (H x W)

## Ordering code

EB3000 - <sup>1.</sup>

1. Option	
00	without option
IP	sealing to increase protection class to IP65

## Necessary accessories

The following accessories are needed for configuration of EB 3000 and recording / read-out of connected EASYBus modules:

- Interface converter RS232 – EASYBus (e.g. EBW1, EBW2, EBW64) or USB – EASYBus (EBW3)
- EASYBus-Configurator (as of version 2.0) for start-up and configuration of advanced settings

# Interface Converter EBW 1 / EBW 3 EBW 64 / EBW 240



- Bidirectional interface converter
- Transfer rate: 4800 baud
- RS232 to EASYBus or USB to EASYBus

## Characteristics

The interface converters are used for decentralized data collection, configuration of logger functions and for read-out the value memories of EASYBus modules.

The EBW are bidirectional interface converters, from RS232 to EASBus or USB to EASYBus.

By means of the interface converters a EASYBus module can be connected to a PC, SPS, etc.

## Technical data

	EBW 1	EBW 3	EBW 64	EBW 240
Max. bus load	14	2	64	240
Power supply	230 V AC, 50/60 Hz	none, USB powered	230 V AC, 50/60 Hz	
Interfaces	PC: RS232 sensor: EASYBus	PC: USB sensor: EASYBus	PC: RS232 sensor: EASYBus	

	EBW 1	EBW 3	EBW 64	EBW 240
Permissible bus length	200 m	10 m	1000 m	
Power consumption	5 W	max. 0.5 W	15 W	30 W
Bit-recovery	no	no	yes	yes
Short-circuit proof	yes (30 sec.)	no	yes (passive)	yes (active)
Electrically isolated	yes	yes	yes	yes
Overload display	no	no	yes	yes
Transfer rate	4800 baud			

## Scope of delivery

- EBW 1:  
Interface converter, 9-pole DSub extension cable
- EBW 3:  
Interface converter
- EBW 64:  
Interface converter, 9-pole DSub extension cable
- EBW 240:  
Interface converter, plug power supply, 9-pole DSub extension cable incl. software **EASYControl**

## Dimensions

- EBW 1 : 112 x 80 x 45 mm (H x W x D)
- EBW 3 : 56 x 31 x 24 mm (H x W x D)
- EBW 64 : 100 x 75 x 100 mm (H x W x D)  
adequate for hut rail mounting
- EBW 240 : 200 x 240 x 85 mm (H x W x D)

## Ordering code

1.  
EBW

1. Design type	
1	as per description
3	as per description
64	as per description
240	as per description

## Interface Converter GW 110 PB



- Bidirectional interface converter
- Profibus to RS232 for EASYBus

### Characteristics

The GW 110 PB is an interface converter from Profibus to EASYBus. In combination with an additional EBW 1 / 64 / 250 EASYBus modules can be connected to the Profibus. The interface converter GW 110 PB is adequate for hat-rail mounting.

### Technical data

Max. number of sensor modules	depending on EBW
Power supply	230 V / 50/60Hz
Interfaces	RS 232, Profibus
Permissible bus length	depending on EBW
Power supply	depending on EBW
Transfer rate	depending on EBW

### Dimensions

Housing: 100 x 115 x 20 (H x W x D)

### Scope of delivery

1x gateway-interface-converter, 1x connection cable, 1x power supply

### Ordering code

**GW110PB**

### Necessary accessories

An additional interface converter EBW 1, EBW 64 or EBW 250 is needed to get from the RS232 interface to the EASYBus.

- **EBW 64:** We recommended the interface converter EBW 64 as it allows bus length up to 1000m and is adequate for hat rail mounting.

## Radio Modem Set DFM 232 Set



- Wireless inquiry of EASYBus modules
- Bidirectional RS 232 interface
- High range

### Characteristics

The DFM 232 Set is used for remote inquiry of e.g. greenhouses or heating/ventilation/climate.

The DFM 232 Set provides remote access to EASBus modules via 433MHz wireless network. The set contains a transmitter and a receiver.

### Technical data

Frequency	433.050..434.775 MHz 439.700..439.975 MHz
Bit rate	4800 bit/s
Transfer rate	300..115200 Baud
Power supply	12..24 V DC

### Dimensions

Housing : 70 x 95 x 30 mm (H x B x T)

### Necessary accessories

An interface converter EBW 1, EBW 64 or EBW 250 is needed to get from RS232 interface to EASYBus

### Ordering code

**DFM232Set**

## WLAN oder Gigabit-Ethernet zu USB Wandler LAN 3200 / WLAN 3200



- Zur Abfrage von EASYBus-Modulen oder GMH Handmessgeräte mit Schnittstelle
- 2 x USB-Eingang

### Merkmale

Anwendung findet der LAN 3200/WLAN 3200 bei der Abfrage von Messwerten über LAN/WLAN.

### Technische Daten

Serielle Schnittstelle	2 x USB
LAN Port	RJ-45 10/100/1000 Mbps
Netzwerkverbindung über:	Stat. IP oder DHCP
Versorgungsspannung über Netzteil	12 V DC / 1 A

### Beschreibung

WLAN 3200:  
Zur Abfrage von EASYBus Modulen, GMH Handmessgeräten mit Schnittstelle oder GDUSB 1000 über Netzwerk oder Funk-Netzwerk. Mit 1 USB Port kann direkt ein oder mehrere EBW 3, USB 3100N oder GDUSB 1000 angeschlossen werden (bis zu 15 mit USB Hub). Für EBW 1, EBW 64 oder EBW 250 ist ein USB-Adapter im Lieferumfang enthalten.

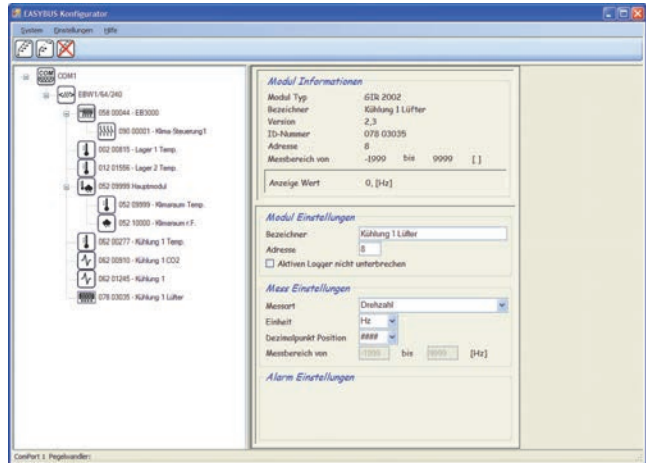
### Abmessung

Gehäuse : 100 x 100 x 25,5 mm (H x B x T)  
Gewicht : LAN: 96 g / WLAN: 118 g

### Bestellschlüssel

LAN3200  
WLAN3200  
Lieferumfang/Zubehör: WLAN 3200, Netzteil, USB-Adapter, Anleitung, CD

## Konfigurationssoftware EASYBus-Configurator



- Übersichtliche Darstellung mittels Baumstruktur
- Zuordnung der Messstellen durch „Drag and Drop“
- Kostenlos Freeware

### Merkmale

Eingesetzt wird der kostenlose EASYBus-Configurator bei der Konfiguration und Erstinstallation von EASYBus-Systemen.

Nach der Systeminitialisierung können grundlegende Moduleinstellungen vorgenommen werden und EASYBus-Module sowie -Anzeigeräte und -Regelgeräte einfach und komfortabel konfiguriert werden.

### Vorteile

- Auflistung aller angeschlossenen Module in einer Baum-Struktur
- Übersichtliche Einstellung von EASYBus-Sensormodulen
- Einfache Einrichtung des EB 3000 Regel-, Anzeige- und Überwachungsgerätes:
- Hinzufügen von Modulen per Drag & Drop-Funktion
- Programmierung von vorgefertigten virtuellen Kanal-Funktionen
- Übersichtliche Einstellung der Schalt- und Alarm-Ausgänge

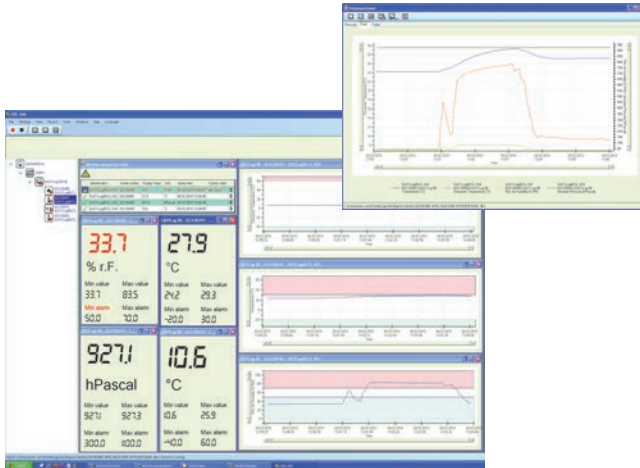
### Systemvoraussetzungen

Empfohlen Windows 8.1 32 / 64 Bit oder neuer.  
(Lauffähig ab Windows XP, nicht lauffähig unter Windows RT, auf ARM oder Intel Itanium basierten Windows Systemen.  
*Technischer Support ab Windows 8.1)*

### Bestellschlüssel

EASYBus-Configurator  
Kostenloser Download über unsere Homepage

## Measuring Data Acquisition Software EBS 20M / EBS 60M



- Freely scalable diagrams
- Data storage in a data base
- Simultaneous support of multiple interfaces

### Characteristics

This software is used for on-site data evaluation, real-time monitoring of EASYBus measuring, for process and climate control and for plant and building monitoring.

The EBS 20M / EBS 60M provides 20 / 60 channel measuring data acquisition for recording, monitoring, displaying and documenting the data.

### Features

- Simultaneous support of multiple interfaces
- Use of different interface converters at the same time
- Easy and fast installation and operation
- Freely scalable diagrams
- Visualization of the data during recording
- Reliable data storage due to usage of a SQL database
- Data export to established formats (e.g. Excel)

### system prerequisite

Recommended Windows 8.1 32/64 bit or higher.  
(Running from Windows XP, not running under Windows RT, ARM or Intel Itanium based Windows systems.  
Technical support from Windows 8.1)

### Ordering code

1.  
EBS

1. Type	
20M	20-channel measuring data acquisition software
60M	60-channel measuring data acquisition software

## Monitoring and Displaying Software EASYControl net



- Network-compatible displaying software
- Permanent update of displayed values
- Visualization with tables, digital displays, tachometers or charts

### Characteristics

The software EASYControl net is used for recording, monitoring, displaying and documenting EASYBus sensor modules in a network.

### Features

- User accounts (with secured password transmission)
- Recorded data cannot be modified or manipulated later
- Permanent update of displayed values
- Correct chronological allocation of measuring values
- Load former data and complete them with "live" data
- Uncoupling of data acquisition, data storage and visualization
- Component communicating via LAN
- Data visualization via local network
- Trigger EBB Out switching channels via EASYBus
- Embedding of almost every measuring system or measuring device via PlugIn.
- Different kinds of visualization
- Display multiple graphs "live" in one chart
- Blinking symbols on error or status messages

### system prerequisite

Recommended Windows 8.1 32/64 bit or higher.  
(Running from Windows XP, not running under Windows RT, ARM or Intel Itanium based Windows systems.  
Technical support from Windows 8.1)

### Ordering code

EASYControl net

## Function Library EASYBus.dll

- Function library for interface communication
- Easy integration of all EASYBus modules to your own
- WINDOWS®-software
- Multiple program examples for Excel VBA, Visual Studio 2005-2010, C++

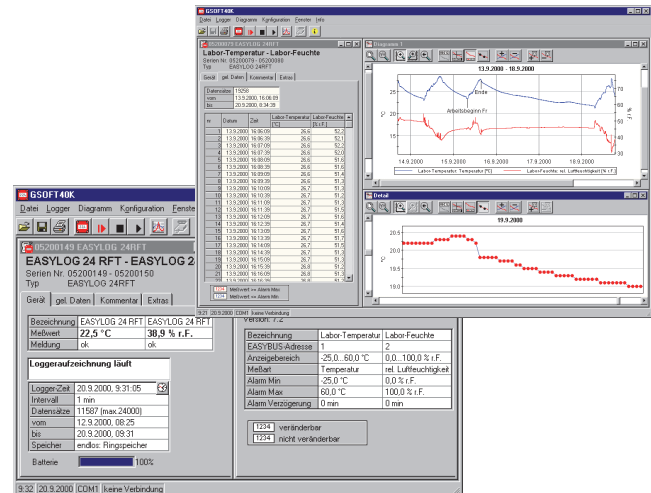
### system prerequisite

Recommended Windows 8.1 32/64 bit or higher.  
(Running from Windows XP, not running under Windows RT, ARM or Intel Itanium based Windows systems.  
Technical support from Windows 8.1)

### Ordering code

EASYBus.dll

## Read-Out and Operating Software for Logger GSOFT 40K



- Displaying, operating and export of logger data
- Chart and table display
- Automatic read-out / archiving

### Characteristics

The software GSOFT 40K is suited for operating logger modules and for read-out of measuring data.

The GSOFT 40K provides the possibility to operate simultaneously several EASYLogs, register their status information and read-out, display, document and save the measuring values.

### Features

- Comfortable user interface
- Display of logger status information
- Setting of special functions
- Additional entering of remarks
- Visualization of data in charts and tables
- Simultaneous operation and display of several loggers
- Remote operation via conventional and mobile telephone nets
- Automated read-out / archiving
- Export function (e.g. to Excel)

### system prerequisite

Recommended Windows 8.1 32/64 bit or higher.  
(Running from Windows XP, not running under Windows RT, ARM or Intel Itanium based Windows systems.  
Technical support from Windows 8.1)

### Scope of delivery

1x software GSOFT 40K, 1x connection cable EBSK 01

### Ordering code

GSOFT40K

and easily put in or out if needed  
(supplied without EASYLog)

**GWH 40K**

**Wall mounting with lock as protection against theft**

Suitable for: EASYLog (except: EASYLog 40NS W) and EBN/K, (supplied without EASYLog)



**ESK-1**

**Network-independent external starting key**

Suitable for: logger of type EASYLog 40... and EASYLog 24...



**Cables and terminals**

**EBSK 01**

**1 m connection cable with special plug**

For connecting an EASLog to the EASBus.  
For read-out or continuous operation



**EBSK 03**

**3 m connection cable with special plug**

For connecting an EASLog to the EASBus.  
For read-out or continuous operation

**EBSK 10**

**10 m connection cable with special plug**

For connecting an EASLog to the EASBus.  
For read-out or continuous operation

**VSL 2P**

**Twisted special cable for EASYBus systems**

Cross section 2 x 0.75 mm<sup>2</sup>



**AKL 1P**

**Special branch terminal for connection to VSL2P (2 pieces)**



**Interface accessories**

**USB adapter**

**RS232 (9-pole) <=> USB**

For connecting an interface converter EBW 1 / 64 / 240 to an USB interface (with extension cable)



**GRS 01/9**

**EB 2000 MC – interface cable**

for connection to 9-pole RS232-interface of a PC



**Alarm monitoring**

**EBUW 232 A**

**Independent alarm monitoring**

Power supply: 6..12 VDC  
Switching output: NPN open-collector, max. 12V / 50mA



**Workings:**

The EBUW 232A monitors independently – that means without additional PC – up to 240 EASYBus modules for their alarm conditions. If an alarm is present, the alarm output of the EBUS 232A will be set.

Furthermore it is possible to control switching module EBB 4 OUT / .. via EASYBus. Distinction of min/max alarm and system alarm is possible.









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