Connection Systems

Alpha-Basis EIB
AB 7001-6 / AB 7001-12

Alpha-Basis EIB is a connection unit to connect EIB room thermostats to the actuators (e. g. Alpha-Actuators). The room temperature information is sent from the EIB thermostats via the EIB installation bus to the Alpha-Basis EIB. Furthermore, the Alpha-Basis provides the corresponding operation voltage to the connected actuators.

Predominantly, it is used at the heating circuit distributor of a system. The Alpha-Basis is appropriate for new constructions, as well as for the re-fitting of residential and commercial buildings with already existing floor heating systems.

In order to adapt to individual heating system requirements, extension modules can be connected to the integrated interface of the Alpha-Basis. This modular structure allows an extension of the Alpha-Basis at any time. The spring/clamp terminal connections minimize installation time.

AB 7001-6

EIB®

Features

- Operating mode indicators (voltage supply, fuse)
- Function indicator (operating condition of thermostats)
- Output protection against short circuit and overload
- Connection by screwless plug-in/clamping connection technology
- Clear arrangement of the connection line with cable grip
- Can be extended on modular basis
- Channel-wise working mode selection: switching control or continuous control
- Monitoring of the objects "control variable" (emergency program)
- Valve protection in summer operation

General Information

Type
AB 7001-6 for 6 heating zones
AB 7001-12 for 12 heating zones

Scope of Supply
1 x Alpha-Basis 7001 EIB
1 x Installation instruction
2 x 2 screws
1 x mounting bracket (295 mm)
4 x Distance sleeves
1 x Connection plug EIB

Ordering Information
Our staff will be glad to assist you in finding the Alpha-Basis fitting your application. Call us at: +49 - 53 41 - 84 75 - 0

Download the product database at:
http://www.moehlenhoff.de/EIB

Application & Function

The Alpha-Basis EIB is used during the scope of the installation of EIB technology in new constructions or in the modernisation of privately owned residences, office buildings, multipurpose halls, and also for modernizing and refitting older buildings with floor heating.

In most cases, the Alpha-Basis is mounted in the heating circuit distribution cabinet, directly on the wall, or on a mounting bracket. The EIB cable is connected via the EIB connection terminal integrated in the basis. The EIB installation bus allows a connection of a maximum of 13 Alpha-Actuators.
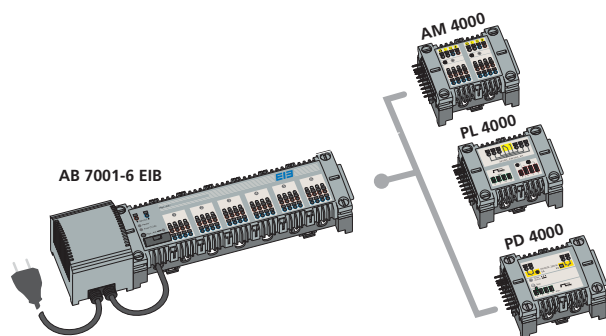
The Alpha-Actuators are connected via the cable grips to the plug-in/clamping connection of the Alpha-Basis EIB. The room temperature information is sent from the EIB thermostats via the EIB installation bus to the Alpha-Basis EIB. After the processing of the information, the corresponding actuators are triggered for opening and closing the valves. The product database allows a channel-defined working mode selection between switching control and continuous control. If the control variable is missing, an emergency program is started. The heating actor is deactivated with the object "summer operation". If desired, a valve protection program can be executed along with this. The determination of the exact control variable allows the optimal adaptation of the flow temperature by the boiler. For this, however, the boiler must support this function.

The entire EIB control system is marked by easy installation, enormous system security and high controlling comfort. It allows a precise and comfortable temperature control in different heating zones within a building.
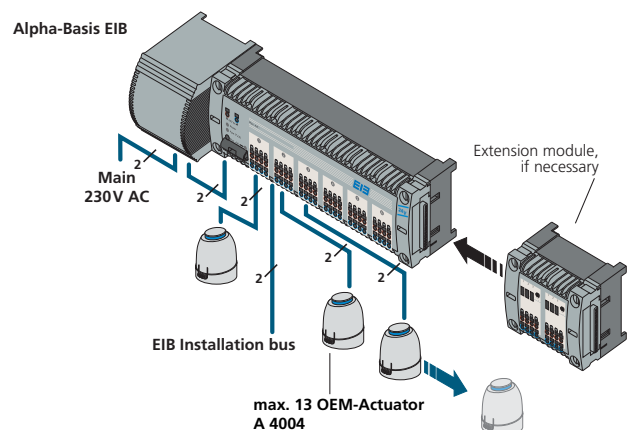
The integrated interface allows the extension of the Alpha-Basis with optionally available modules. In order to comply with individual requirements, the Alpha-Basis EIB can be extended, optionally, with the ActuatorModule (AB AM 4000) and, if necessary, with the PumpModule (AB PM 4000).

## The Alpha-System EIB

Extension Options

AM 4000

PL 4000

PD 4000

AB 7001-6 EIB

Connection Recommendations

Alpha-Basis EIB

Main 230 V AC

Extension module, if necessary

EIB Installation bus

max. 13 OEM-Actuator A 4004

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Technical Data

| Type	AB 7001-6	AB 7001-12
Operating voltage	230 V AC, 24 V secondary	230 V, 24 V secondary
Max. power input	50 W	50 W
Fuse	T 2 A	T 2 A
Heating zones	6	12
Max. number of actuators (about 2 W)	13	13
Dimensions (mm) H / W / L	70 / 75 / 302	70 / 75 / 302
Weight including transformer	1.700 g	1.700 g
Protection class	II	II
Protection type	IP 20	IP 20
Ambient temperature	0 to 50°C	0 to 50°C
Storage temperature range	-25 to 60°C	-25 to 60°C
Relative humidity	max. 80%[1]	max. 80%[1]
Applicable wire sections		
Solid wire	0.5 – 1.5 mm^2	0.5 – 1.5 mm^2
Flexible wire[2]	1.0 – 1.5 mm²	1.0 – 1.5 mm²

302
70
75
70

CE
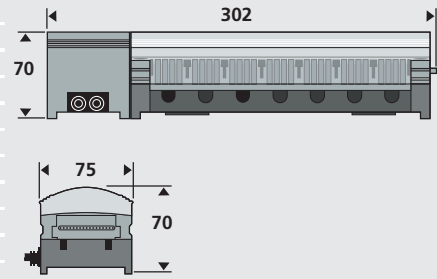
[1] not condensing
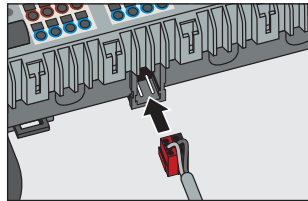[2] The wires of the actuators can be used with factory-mounted end sleeves.

⚠️ **Only authorised electricians with EIB training may perform the initialisation and the programming of the Alpha-Basis EIB.**

Installation Notes
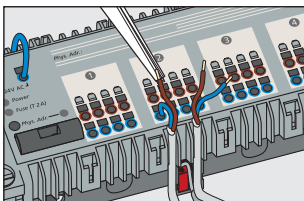
Connection of the Installation Bus
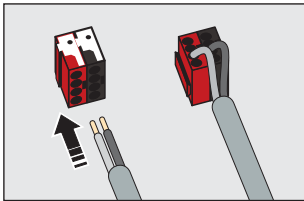
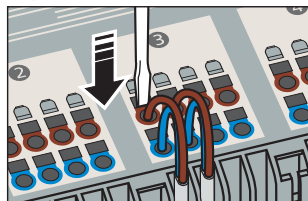Connect the EIB plug to the bus line.

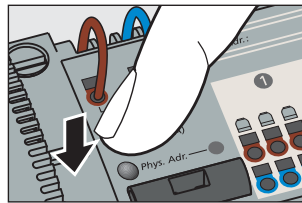Connect the plug of the 2-pole-wiring into the plug connector.

Connection of Actuators

Installation: Insert the cable terminations into the clamping connections. Observe the colour codes of the connections.

Disassembly: Open the clamp with a screwdriver and pull out the cable.

Operation Notes

When the set key is pressed, the Alpha-Basis changes over to the initialisation mode and waits for the allocation of the physical address.

⚠️ **You may download the product database with a programming aid at: www.moehlenhoff.de/eib**

EIB ® is a registered trademark of the European Installation Bus Association, Brussels

Please take information on the start-up and on the controlling operation from the manual included in the scope of delivery.

Product Overview Alpha-Basis Connection System

Devices

The Alpha-Basis consists of a flexible and broad product portfolio. Following versions are available:

Alpha-Basis 230 V.........................AB 2000-1 / AB 2000-6
Alpha-Basis 24 V...........................AB 4001-1/ AB 4001-6
Alpha-Basis RC 868 MHz ....AB 4071-6 / AB 4071-12
Alpha-Basis EIB ....AB 7001-6 / AB 7001-12

Alpha-Basis Matrix	AM 2000/4000	HK 4000	PL 2000/4000	PD 2000/4000	RM 2000/4000	TM 1000
AB 2000	●		●	●	●	●
AB 4001	●	●	●	●	●	●
AB 4071		●	●	●		●
AB 7001	●		●	●		

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The Software Interface EIB for the Alpha-Basis EIB Parameter Adaptation

1. Basic Setting of the Application

Parameter bearbeiten

| Kanal 7 | Kanal 8 | Kanal 9 | Kanal 10 | Kanal 11 | Kanal 12 |
| Allgemein | Kanal 1 | Begrenzung Kanal 1 | Kanal 2 | Kanal 3 | Kanal 4 | Kanal 5 | Kanal 6 |

Welches Gerät wird verwendet — AB 7001-12

Status der Stellgrößenüberwachung senden — nur bei Stellgrössenausfall senden

Periode für zyklisches Überwachen der Stellgröße — ca 30 min

Ventilschutz bedeutet (nur im Sommerbetrieb) — einmal am Tag für 6 min Ventil öffnen

OK   Abbrechen   Standard   Info   Voller Zugriff   Hilfe

Select the device type used (AB 7001-6 or -12).

For checking the control variable: In which cases shall sending be performed: cyclically or in case of a disturbance variable failure?
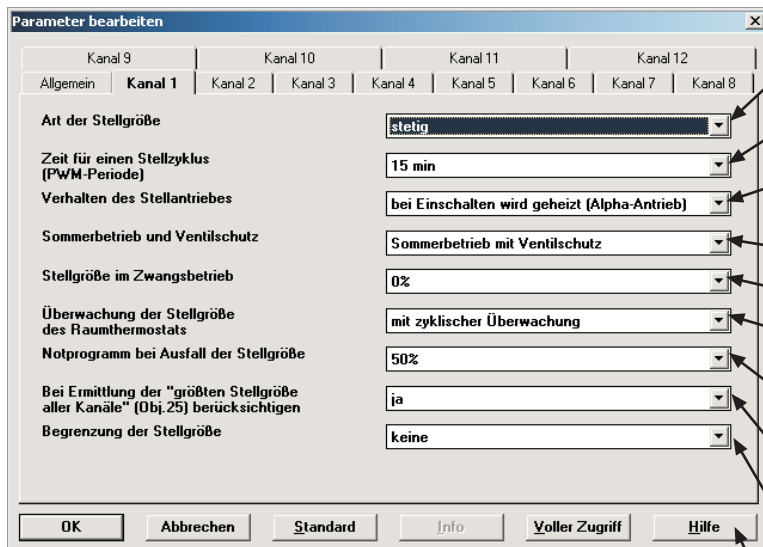
After which time of not receiving control variables shall a room thermostat failure be supposed?

If the function "valve protection" is activated, the corresponding valve is triggered once a day for six minutes during summer operation. This will effectively protect the valve from clogging.

2. Parameterbearbeitung der Kanäle

The control variable type depends from the room thermostat working mode (continuously or switching)

2.1. Parameter adaptation of the channels (continuous control variable)

Parameter bearbeiten

| Kanal 9 | Kanal 10 | Kanal 11 | Kanal 12 |
| Allgemein | Kanal 1 | Kanal 2 | Kanal 3 | Kanal 4 | Kanal 5 | Kanal 6 | Kanal 7 | Kanal 8 |

Art der Stellgröße — stetig

Zeit für einen Stellzyklus (PWM-Periode) — 15 min

Verhalten des Stellantriebes — bei Einschalten wird geheizt (Alpha-Antrieb)

Sommerbetrieb und Ventilschutz — Sommerbetrieb mit Ventilschutz

Stellgröße im Zwangsbetrieb — 0%

Überwachung der Stellgröße des Raumthermostats — mit zyklischer Überwachung

Notprogramm bei Ausfall der Stellgröße — 50%

Bei Ermittlung der "größten Stellgröße aller Kanäle" (Obj.25) berücksichtigen — ja

Begrenzung der Stellgröße — keine

OK   Abbrechen   Standard   Info   Voller Zugriff   Hilfe

The room thermostat sends a control variable in %

An actuation cycle consists of a switching on and off process and forms a PWM period.

According to the working mode of the actuators "open when de-energised" or "closed when de-energised"

The summer operation mode can be selected. (valve protection, see above)

Selection of a fixed control variable in forced operation[1] (0 – 100 %).

Allows an automatic monitoring of the room temperature thermostats.
Optional: Function deactivated.

Select a fixed control variable supposed to replace the control variable of the room thermostat in the emergency program[2].

Shall the channel be integrated into the determination of the biggest control variable of all channels?[3]

There is the possibility to limit the control variable in a user-defined range. (see 2.1.1.)

The help function refers to the ETS software.

[1] The cipher 1 in the application "forced operation" of the ETS database sets the corresponding channel to forced operation. In this case, the channel will constantly heat with the set fixed control variable (0...100 %).

[2] If the BUS fails, the Alpha-Basis EIB switches over to the emergency program (freeze protection mode).

[3] This object is available if at least 1 channel was programmed as continuous thermostat. The control variables of the channels are permanently compare to each other, the currently highest value is always sent to that object. This allows to send the current heat demand of the installation continuously to the boiler; thus, it can adapt its performance to the actual requirements.

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The Software Interface EIB for the Alpha-Basis EIB Parameter Adaptation

2.1.1. Parameter adaptation of the channels (continuous control variable)

If "Control variable limitation" is selected as user-defined under 2.1., the following dialog window appears:

Parameter bearbeiten

| Kanal 7 | Kanal 8 | Kanal 9 | Kanal 10 | Kanal 11 | Kanal 12 |
| Allgemein | Kanal 1 | **Begrenzung Kanal 1** | Kanal 2 | Kanal 3 | Kanal 4 | Kanal 5 | Kanal 6 |

Minimale Stellgröße — `10%`

Stellgrösse bei Unterschreiten der minimalen Stellgröße — `0% = 0%, sonst minimale Stellgröße`

Maximale Stellgröße — `90%`

Stellgrösse bei Überschreiten der maximalen Stellgröße — `maximale Stellgröße`

[OK] [Abbrechen] [Standard] [Info] [Voller Zugriff] [Hilfe]

- Smallest allowed control variable
- Limitation, if the room thermostat receives a control variable below the minimum control variable.
- Biggest allowed control variable
- Limitation, if the room thermostat receives a control variable above the maximum control variable.

2.2. Parameter adaptation of the channels (switching control variable)

Parameter bearbeiten

| Kanal 9 | Kanal 10 | Kanal 11 | Kanal 12 |
| Allgemein | **Kanal 1** | Kanal 2 | Kanal 3 | Kanal 4 | Kanal 5 | Kanal 6 | Kanal 7 | Kanal 8 |

Art der Stellgröße — `schaltend`

Zeit für einen Stellzyklus für Zwangsbetrieb und Notprogramm — `15 min`

Verhalten des Stellantriebes — `bei Einschalten wird geheizt (Alpha-Antrieb)`

Sommerbetrieb und Ventilschutz — `Sommerbetrieb mit Ventilschutz`

Stellgröße im Zwangsbetrieb — `100%`

Überwachung der Stellgröße des Raumthermostats — `mit zyklischer Überwachung`

Notprogramm bei Ausfall der Stellgröße — `50%`

[OK] [Abbrechen] [Standard] [Info] [Voller Zugriff] [Hilfe]

- Defines the cycle time during forced operation or emergency program (4...30 min)
- According to the working mode of the actuators "open when de-energised" or "closed when de-energised"
- Summer operation mode (valve protection, see basic setting of the application)
- Selection of a fixed control variable in forced operation[1] (0 – 100 %).
- Shall a malfunction of the room thermostat be recognised quickly, triggering an emergency program[2]?
- Select a fixed control variable supposed to replace the control variable of the room thermostat in the emergency program[2].

The parameters of the Alpha-Basis EIB can be set back to the delivery state by performing a reset.