Room thermostat

Alpha-Thermostat EIB
AR 7001 EIB-N

The Alpha-Thermostat EIB is a continuous thermostat for single room regulation with EIB technology. It controls EIB capable actors as e. g. actuators or the Alpha-Basis EIB.

Temperature pre-selection at the set value element is in 1/4 degree steps. The optimum demand adaptation is performed by means of a manual pushbutton with the following operating modes: Comfort / Stand-by / Night reduction / Antifreeze. Indication is performed by means of status LEDs.
The connection is performed via the integrated bus coupler; installation can be done with the pre-installed Alpha Mounting base onto the wall.

EIB ®

Features

- EIB technology
- Manual pushbutton for presence or for switching between the operating modes: Comfort / Stand-by / Night reduction / Antifreeze
- Status LEDs for Presence, Stand-by, Night reduction, Antifreeze, Cooling
- The red/blue LED indicates whether heating or cooling operation is active and if the desired temperature has been reached.
- Rotary temperature control with 1/4 degree soft clicks
- Temperature setting with absolute or relative scale.
- The temperature adjustment range can be limited mechanically or by means of parameters
- The function of the setting wheel can be switched off by means of parameters
- Conventional switch/pushbutton, dimming, and shutter telegrams can be sent via the bus.
- Precise controlling behaviour by means of PI regulation
- Functional design

Application

Individual room control with concealed, radiator and convector heating and cooling systems in residential and commercial buildings. A parameterisation can be performed for the following functions:

- Heating, e. g. for radiator or floor heating
- two-level heating with basic and additional level, e. g. for floor heating and radiator in the same room
- Heating and cooling, e. g. for radiator and cooling ceiling

General Information

Type
AR 7001 EIB-N

Scope of supply
1 x Alpha-ThermostatAR 7001 EIB-N
1 x Installation instruction
1 x Rotary control with absolute scale (pre-assembled)
1 x Rotary control with relative scale (separate)
1 x Alpha Mounting base AS 1000

Accessories
1 x Floor sensor

Ordering information
Our staff will be glad to assist you in finding the Alpha-Thermostat fitting your application.
Call us under: +49 - (0) 53 41 - 84 75 - 0

Product database

- You can find further information and the programming routine manual in the Internet.

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

Function

The Alpha-Thermostat EIB is a EIB room temperature regulator with PI regulation for wall installation. It measures the current room temperature (actual value) and sends a constant control variable (0...100%) to an actuator or to a heating actor as e. g. Alpha-Basis EIB, in order to reach the desired room temperature (target value). It is also capable to regulate 2-level systems with floor heating and radiator for the quick heating of a single room. Furthermore, the heating and cooling function is supported by the regulator. The temperature can be adjusted with a big setting wheel. The adjustment range can be limited mechanically with the setting wheel or by means of parameters. The manual pushbutton allows the selection of the following operating modes with different temperature levels:

- Comfort operation (⌂)
- Stand-by operation (⌂)
- Night operation (☾)
- Antifreeze operation (✻)

The two-colour (red or blue) LED indicates whether heating or cooling operation is active and if the desired target temperature has been reached. As the temperature regulators are often installed in the vicinity of light switches, the three binary inputs of the Alpha-Thermostat EIB can be used meaningfully. A maximum of three conventional pushbuttons or switches can be made capable to be operated via buses by connecting them to the Alpha-Thermostat EIB, allowing their use for the functions switching, dimming and shutter control. Thus, existing switches are used to send telegrams onto the bus.

Remote temperature control
For publicly accessible rooms, a corresponding remote sensor in wall installation casing is offered for the Alpha-Thermostat EIB. For floor heating systems e. g. in bathrooms, a sensor (IP65) for monitoring the floor temperature, installed in an empty tube below the tiles, can be connected.

Time and event controlled temperature regulation
The best energy savings in single room regulation can be realised with the program-controlled temperature reduction. In the EIB system, reduction is performed with a central time program control e. g. by means of 2 - 16 channel time-switches. This allows a comfortable programming of night reduction, weekend reduction as well as vacation and holiday reductions, by means of a simple mouse click in your PC.
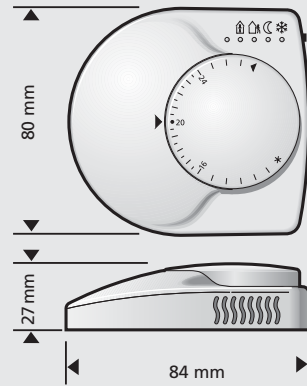
Heat input control
The single room thermostat Alpha-Thermostat EIB sends the control variable to e. g. EIB capable actuators of the radiator in the room. For floor heating systems, the individual heating circuits are regulated with the 6 or 12 zone heating actor Alpha-Basis EIB (6 or 12, respectively) with corresponding thermal actuators (24V) at the individual heating circuits. The installation is particularly easy and safe, as the solution is operated with extra-low voltage (24V) in the heating circuit distributor and as it can be supplied ready-to-plug-in with transformer and the corresponding thermal actuators. The Triac outputs are another advantage, as they switch completely without noise; this makes them uncritical when installed centrally in living areas.

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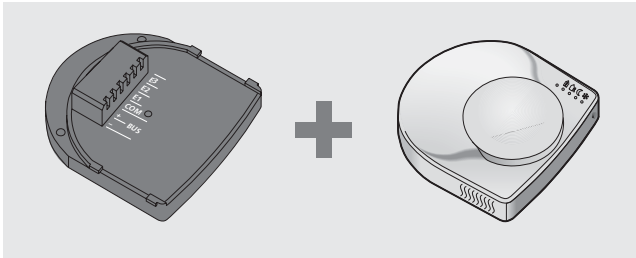is a registered Trademark of the European Installation Bus Association, Brussels

Möhlenhoff

Room thermostat

Technical data

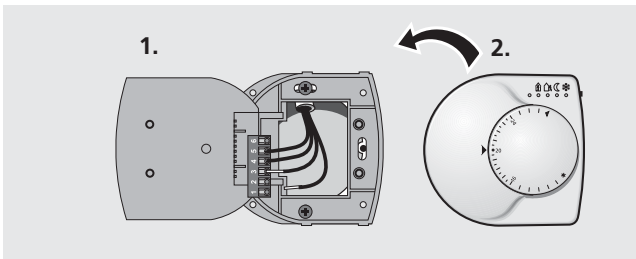| Type	AR 7001 EIB-N
Operating voltage	Bus voltage
Own consumption	$\leq$ 10 mA
Control range	10°C to 28°C
Measuring range	0°C to 40°C
Temperature reduction	approx. 4K / 20°C
Storage temperature	-25 to +70°C
Ambient temperature	0 to +50 °C
Relative humidity	max. 80%[1]
Protection type	IP 20
Protection class	II
CE conformity according to	EN 60529
Casing material	ABS
Housing colour	pure white
Weight	46 g without Alpha Mounting Base

80 mm

27 mm

84 mm

[1] not condensing
[2] with Alpha Mounting Base + 8,5 mm

Planning and Installation Notes
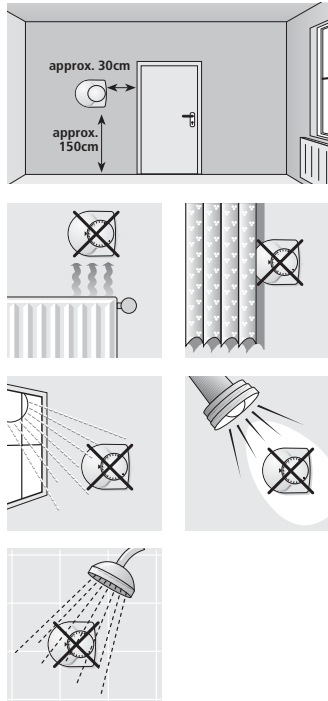
Installation note

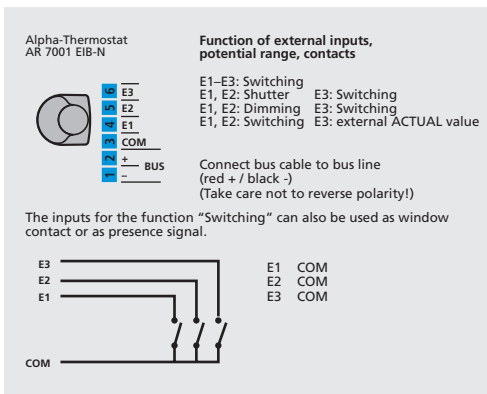Installation and electric connection are only possible using the Alpha Mounting.

1.   **2.**

Installation can be performed directly to the wall or with a flush-type box.

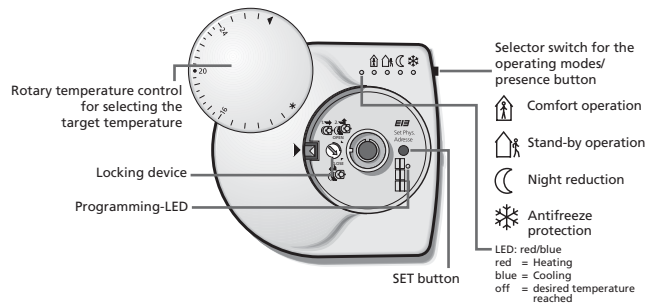### Empfohlener Montageort

approx. 30cm

approx. 150cm

Note!
In order to ensure a trouble-free and thus optimal operation of the thermostat, this device should be located behind a door in a calm zone – free of ambient influences as e. g. draught, direct sunlight or other sources of heat; it must not be covered by curtains nor be exposed to humidity. Otherwise, there is a danger of not reaching or exceeding the adjusted room temperature, depending on the respective ambient condition.

Connection of bus lines and inputs

Alpha-Thermostat
AR 7001 EIB-N

Function of external inputs, potential range, contacts

E1–E3: Switching
E1, E2: Shutter   E3: Switching
E1, E2: Dimming   E3: Switching
E1, E2: Switching   E3: external ACTUAL value

| E3 |
| E2 |
| E1 |
| COM |
| + | BUS |
| − |

Connect bus cable to bus line
(red + / black -)
(Take care not to reverse polarity!)

The inputs for the function "Switching" can also be used as window contact or as presence signal.

E3		E1	COM
E2		E2	COM
E1		E3	COM
COM			

Control panel

Rotary temperature control for selecting the target temperature

Locking device

Programming-LED

SET button

Selector switch for the operating modes/ presence button

Comfort operation

Stand-by operation

Night reduction

Antifreeze protection

LED: red/blue
red   = Heating
blue = Cooling
off   = desired temperature reached

Möhlenhoff