# **EMO EIB**

# Motorized actuator for direct connection to the European Installation Bus



To be precise.



### **Description**



The EMO EIB proportional actuator is designed for connection to the European Installation Bus (EIB).

The connection is made directly, a separate bus coupling is not necessary. In addition, there is no need for an external auxiliary voltage supply as the actuator is supplied with voltage from the bus.

Enabling contactless programming of the physical address is made with the aid of the programming magnet. A programming LED acts as a status indicator. The maintenance-free actuator operates at an extremely low noise level. The compact body made of top quality plastic includes the motor, gears, stroke recogni-

tion and the entire communications and control electronics.

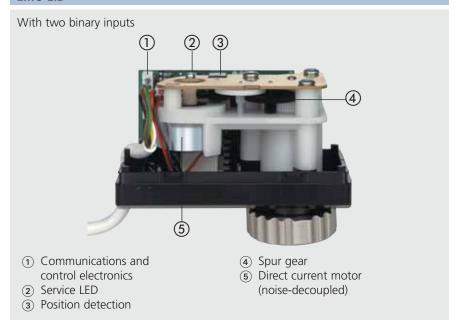
The EMO EIB design with two binary inputs provides the possibility of integrating additional communication objects (see list of the communication objects).

The EMO EIB is intended for installation on all HEIMEIER thermostatic valve bodies and three-way valves. Adapters enable the mounting of thermostatic valve bodies of other manufacturers, see leaflet EMO T or EMOtec.

The electrical connection is made by means of a 2-wire cable protected against polarity inversion, or, with the two-binary input design, with a 6-wire body-strengthened cable.

#### **Assembly**

#### **EMO EIB**



- No auxiliary voltage required
- Automatic stroke recognition
- Runs extremely quietly
- Integrated communications electronics
- Certified according to EIB standard
- Design with two binary inputs

# **Function**

When being put into operation, a self-calibration routine recognises the stroke position of the valve in the closed and completely opened positions. The 8 bit controlled variable received via the EIB is then allocated to the effective valve stroke in a linear relationship. This results in the high 256 position resolution of the valve stroke. The motor switches off as soon as the stroke position corresponds to the control variable received. Stability in this position is ensured by the self-lok-

king gears. The force in the closing range is adjusted for thermostatic valve bodies with soft sealing valve discs.

For the connection of, for example window contacts, an adjustable forced position can be activated for energy saving purposes.

The EMO EIB design with two flexibly configurable binary inputs is suitable for the direct connection of buttons, switches, conventional sensors etc.. Besides

this an adjustable min. and max. limit of the control variable is integrated.

Following a fixed predetermined number of changes in position, and after each interruption of the system voltage, the actuator automatically runs through a self calibration routine.



List of the communication objects				
Communication objects	EMO EIB with two binary inputs	EMO EIB Standard		
Object no. / <description></description>	Type / Name – Function *)	Type / Name – Function		
0 / < Control variable>	8 bit or 1bit / input – control variable*)	8 bit / input – control variable		
1 / <actual value=""></actual>	8 bit / output – control variable (actual position)	8 bit / output – control variable (actual)		
2 / <status (actuator)=""></status>	8 bit or 1 bit / output – operating condition*)	8 bit / output – operating condition		
3 / <forced 1="" position=""></forced>	1 bit / input – switch	1 bit / input – constrained position		
4 / <forced 2="" position=""></forced>	1 bit / input – switch	-		
5 / <min. limit=""></min.>	1 bit / input – switch	-		
6 / <max. limit=""></max.>	1 bit / input – switch	-		
7 / <binary 1="" input=""></binary>	1 bit or 8 bit / switch, short term operation, value, light scene*)	-		
8 / <binary 1="" input=""></binary>	1 bit or 4 bit / long term operation, dimming*)	-		
9 / <binary 2="" input=""></binary>	1 bit or 8 bit / switch, short term operation, value, light scene*)	-		
10 / <binary 2="" input=""></binary>	1 bit or 4 bit / long term operation, dimming*)	-		
11 / <limit larger="" smaller="" value=""></limit>	8 bit or 1 bit / output – switch*)	-		

<sup>\*)</sup> dependent on parameterizing

### **Application**

The EMO EIB motorized actuators are used in the EIB building installation system in the heating, ventilation and air conditioning facilities. They are suitable for installing on thermostatic valve bodies and make it possible to achieve optimum control results when used with the appropriate EIB room temperature controller and also for more demanding control accuracy or for difficult control systems.

Due to their low power consumption, the actuators receive their voltage supply

directly from the bus. It is therefore not necessary to provide an additional auxiliary voltage supply network.

For room temperature control motorized actuators are used, for example on radiators and convector heaters, manifolds for underfloor heating systems, ceiling cooling systems and ceiling radiant heating systems, as well as for fan convector heaters and induction equipment in two or four conductor distribution systems.

The state of an external pair of floating contacts available to the EIB-Net as a

switching or control message. For connection of window contacts an energy saving function is integrated.

If the preset position of the valve is fallen short of, or if it is exceeded, a switching message can be generated, e.g. to switch off a pump.

## **Accessories**

Illustration	Description	Article no.
Heimeler  The state of beautiful to be beautif	Product data base with HEIMEIER-specific data on EMO EIB for down loading into ETS2 from version 1.1 onwards.	
	<b>Programming magnet</b> for programming the physical addresses without contact.	1865-01.433
	Bus terminal  10-piece connection or branch terminal for bus and binary inputs.  Connection for max. 4 solid conductors 0.6–0.8 mm dia. (plug-in connect Application:  EIB connection  Design: 2-pole / red-bl. binary input 2-pole / white-	ack <b>1865-02.433</b>
	Connecting terminal  Terminal for connecting max. 2 solid conductors 0.6 mm dia. (plug-in connection multi-wire or fine wire conductors (screw connection up to 4 mm² with wire protection in the protection of th	

EMO EIB	With two binary inputs	Standard	
Voltage supply:	from EIB-Bus (SELV according to IEC 364-4-41)	from EIB-Bus (SELV according to IEC 364-4-41)	
– system voltage	24 V DC (+ 6 V / - 4 V)	24 V DC (+ 6 V / - 4 V)	
– power consumption	typical 10 mA (= 240 mW), corresponds approx. to 2 BA modules	typical 10 mA (= 240 mW), corresponds approx. to 2 BA modules	
Participants per EIB line:	max. 64 (depending on the nature of the voltage supply and participants)	max. 64 (depending on the nature of the voltage supply and participants)	
Binary inputs:	2 freely configurable binary inputs	_	
<ul> <li>assignment; max. reliable length</li> </ul>	external, floating contacts	-	
	NO/NC type; total length 10 m		
<ul><li>signal current/voltage</li></ul>	approx. 1 mA / 20 V – pulse 5 ms	_	
Valve stroke:	max. 4.2 mm	min. 1.0 mm; max. 4.0 mm	
Running time:	25 s/mm	25 s/mm	
Protection (according to EN 60529):	IP 42 (horizontal installation),	IP 42 (horizontal installation),	
	IP 43 (vertical installation)	IP 43 (vertical installation)	
Safety class:	(II); III according to EN 60730	; III according to 60730	
Body, colour:	plastic, white according to RAL 9016	plastic, white according to RAL 9016	
Connection cable:	1 m fixed; type J(E)YY 3 x 2 x 0.6	1 m fixed; type Y(St)Y 1 x 2 x 0.6	
	(custom lengths available on request)	(custom lengths available on request)	
Connection to the bus:	2-pole with bus terminal block; with polarity inversion protection	2-pole with bus terminal block; with polarity inversion protection	
<ul> <li>the binary inputs</li> </ul>	2 x 2-pole with bus or connecting terminal	- '	
CE certification (EMC / LV):	EN 50081-1, EN 50082-1 / EN 50090-2-2	EN 50022, EN 50081/82 / EN 60730	
Ambient temperature:	0°C to 50°C in operation	0°C to 50°C in operation	
Temperature of the medium:	max. 100 °C	max. 100 °C	
Storage temperature:	-20°C to +70°C	-20°C to +70°C	
Installation:	fits all HEIMEIER thermostatic valve bodies and	d three-way valves	
	May permissible pressure difference with which the valve is still closed; see brochure		

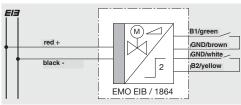
Max. permissible pressure difference with which the valve is still closed: see brochure Thermostatic valve bodies; three-way reversing valve; three-way-mixing valve control valves for underfloor heating.

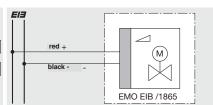
### **Article numbers**

#### 1864-00.500

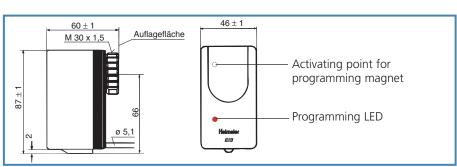
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# **Dimensions**





Theodor Heimeier Metallwerk GmbH Postfach 1124, 59592 Erwitte, Germany Phone +49 2943 891-0 +49 2943 891-100

www.heimeier.com