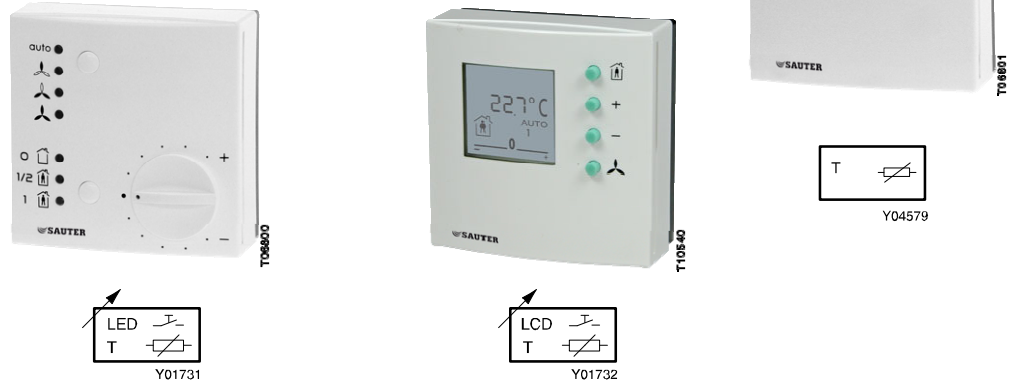


EYB250...256: ecos, Room operating unit for individual-room controllers

Used as a temperature sensor and for operating an individual-room controller (ecos EYE200 to EYE206, as well as EY-RC208, 209).

Housing (76 × 76 mm) of fire-retardant thermoplastic, pure white (RAL 9010). Depending on the type: with adjuster for setpoint correction, with a button and 3 LEDs for 3 room-occupancy levels, with a button and 4 LEDs for 4 fan speeds or with 4 buttons and LCD for setpoint correction, display of actual value, room occupancy, fan speeds, window contacts and dew-point alarm. Terminals 3 × 1.5 mm². Cable inlet at rear. Standard version: with black baseplate.



Products

Type	Setpoint correction	Room occupancy	Ventilator speeds	Display	Supply	Weight (kg)
EYB250F201	–	–	–	–	from ecos 2	0.1
EYB251F201	specific ± 2 K *	–	–	–	from ecos 2	0.1
EYB252F201	specific ± 2 K *	0 – ½ – 1	–	3 LED	from ecos 2	0.1
EYB253F201	specific ± 2 K *	–	AUTO – 3 – 2 – 1	4 LED	from ecos 2	0.1
EYB254F201	specific ± 2 K *	0 – ½ – 1	AUTO – 3 – 2 – 1	7 LED	from ecos 2	0.1
EYB256F101	specific ± 2 K *	0 – 1	AUTO – 3 – 2 – 1	LCD	from ecos 2	0.1

*) parameterisable by linear value correction MFA10

Variants (as F ..1 but with white baseplate)

EYB250F202
EYB251F202
EYB252F202
EYB253F202
EYB254F202
EYB256F102

Technical data

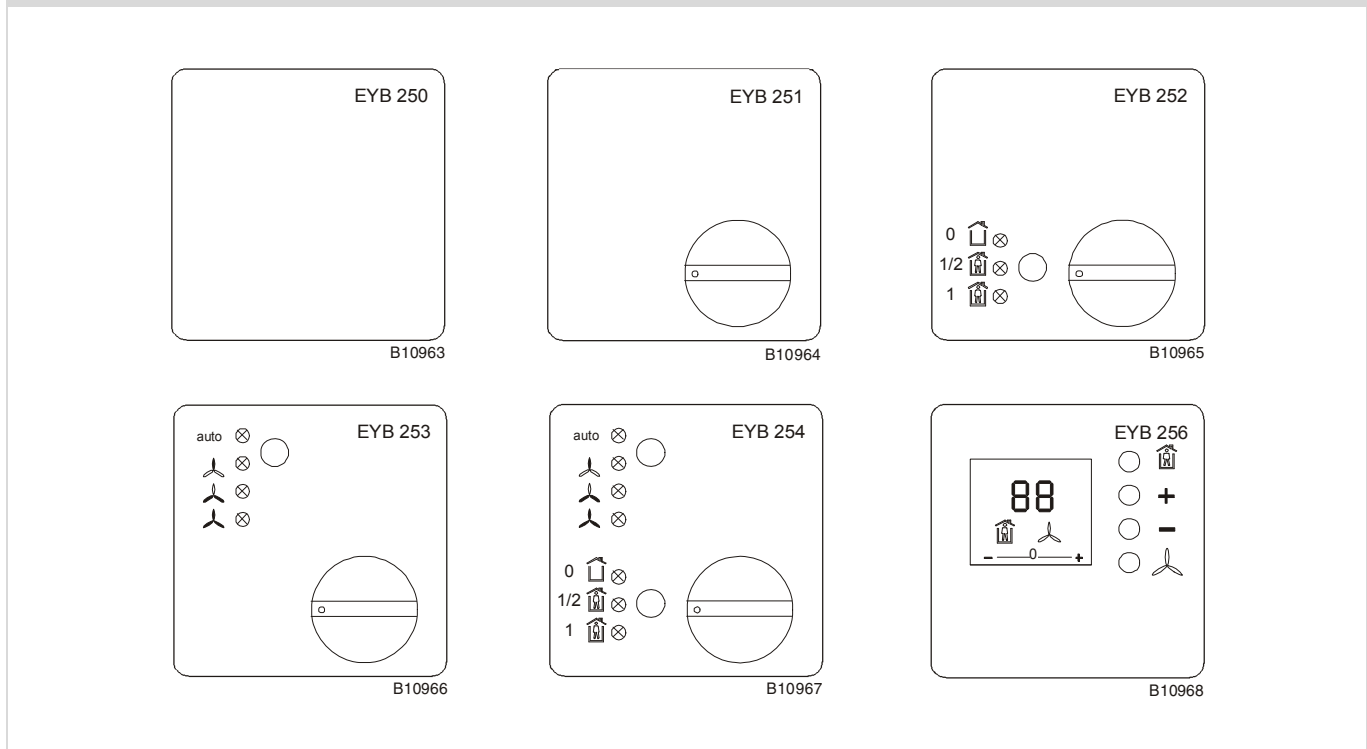
Electrical supply		Permitted ambient conditions	
Power supply	from ecos 2	Operating temperature	0...45 °C
		Humidity	< 85% rh no condensation
Execution		Standards, guidelines and directives	
Integrated temperature sensor		Degree of protection	IP 30 (EN 60529)
Measuring range	0...40 °C	Protection class	III
Resolution	0.1 K	Environmental class	3K3 (IEC 60721)
Time constant	15 min	CE conformity as per	
Functionality		EMC Directive 2004/108/EC	EN 61000-6-1/ EN 61000-6-2
Range displayed. (LCD)	10...35 °C		EN 61000-6-3/ EN 61000-6-4
Setpoint indicator	0...10 V = 16...25.5 °C (via terminal 4)		
Setpoint correction	variable		
Resolution / Measuring range	0.1 K / ≤ 0.1 K		
Connection		Additional information	
Cable	3-wire (4-wire)	Fitting instructions	MV 505448
max. length of cable	100 m	EYB256	MV 505741
LED for room occupancy	0 yellow; ½-1 green	Material declaration	MD 94.250
LED for fan speeds	AUTO yellow; 3-2-1 green		
Resolution / Measuring range	0.1 K / ≤ 0.1 K	Dimension drawing	M07634
		Wiring diagram	A07045 / A10382

Accessories

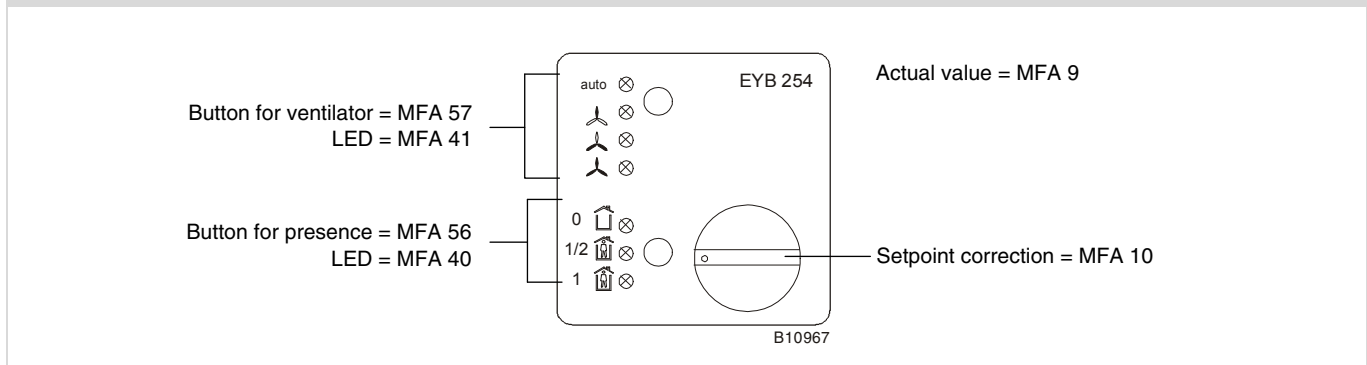
Type	Description
0303124000*	Recessed junction box
0313347001*	Intermediate cover plate (RAL 9010)

* Dimension drawing or wiring diagram are available under the **same** number

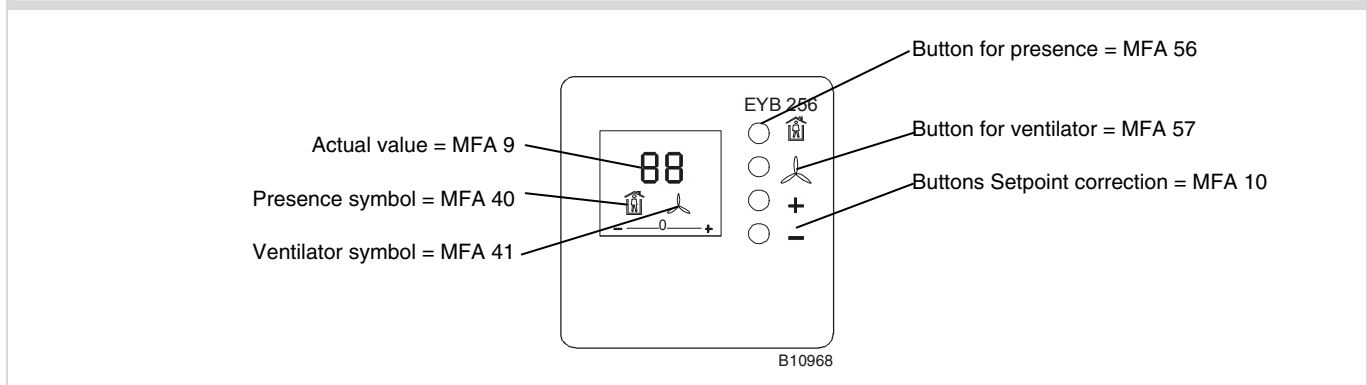
Frontal view



Addresses (MFA) of EYB250...254



Addresses (MFA) of EYB256



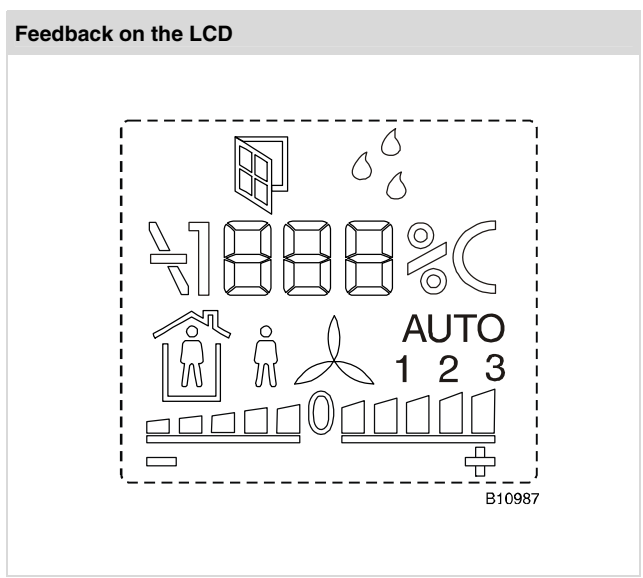
Engineering notes

- The EYB25 . room operating units are designed for fitting on walls.

Additional information for type EYB256

Indication of actual value/setpoint in the display.

- In the basic circuitry, the actual value (MFA 9) is shown in the display. If the user wants to view the setpoint (control parameter) of the ecos, this can be effected via a 0...10 V d.c. signal. This signal is fed to terminal X1/4. When this function is used, the direct display of the actual value in the EYB is no longer available.
- If the user wants the actual value and setpoint to be displayed, this can be done by modifying the program in the ecos. The 0-10 V signal then equates to either the actual value or the setpoint.
- The LCD range is then restricted: 0 – 10 V = 16 °C – 25.5 °C.
- The keys for setpoint correction (MFA 10) must be used for this, since they are directly assigned to the bars in the LCD.
- Linear correction is required for the capture of the actual value (cf. *Linear correction*).



The room operating unit has an LCD with a multi-functional display:

- Indicator for 'window open'
- Indicator for 'dew point breached'
- Indicator for room temperature
- Indicator for operating mode (presence/absence)
- Indicator for ventilator mode manual/auto with speeds 3-2-1
- Indicator for setpoint correction +/- 5 steps; size of step can be parameterised

Feedback commands for ventilator and dew/point symbols

- Apart from the two buttons for the setpoint correction, any other button can be used to switch the fan speeds. Ideally, this should be the button with MFA 57.
- The indicator in the LCD must be activated via the ecos program.
- Activation for both the fan-speed and the dew-point symbols is effected via MFA 41.
- Commands 1, 2 and 3 control the fan-speed symbol, command 4 controls the dew-point symbol. A control logic program for the MFA 41 should be programmed accordingly in the ecos.

Feedback commands for ventilator and dew-point symbols

Bef. 1	Bef. 2	Bef. 3	Bef. 4	Anzeige	
				Bef. 1-3	Bef. 4
0	0	0	0	AUTO	
1	0	0	0	1	
0	1	0	0	2	
1	1	0	0	AUTO 1	
0	0	1	0	3	
1	0	1	0	AUTO 3	
0	1	1	0	AUTO 2	
1	1	1	1		

B10988a

Feedback commands for presence and windows symbols

- Apart from the two buttons for the setpoint correction, any other button can be used to switch the operating mode/presence. Ideally, this should be the button with MFA 56.
- Here again, the indicator in the LCD must be activated via the ecos program.
- Activation for both the presence and the window symbols is effected via MFA 40.
- Command 1 controls the presence symbol, command 2 the window symbol.
- A control logic program for MFA 40 should be programmed accordingly in the ecos.

Feedback commands for presence and window symbols

Bef. 1	Bef. 2	Anzeige	
		Bef. 1	Bef. 2
0	0		
1	0		
1	1		

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Linear correction for various values with different ecos microprogram versions

Actual value of temperature Xi (MFA 9)

The indication of the actual value (Xi) is not a real feedback signal from the ecos, but is rather the measurement result in the room operating unit that is sent directly for displaying in the LCD. The sensor is an NTC element with 10 kΩ at 25 °C.

Because the sensor is an NTC element, the MFA 9 must be linearised in the ecos as follows:

- a = +0.1175
- b = +4.8140

Setpoint correction dXs (MFA 10)

Linearisation is dependent on the desired correction value.

MFA 10 Linearisation correction factors, Index ≤ G

Range	a	b
± 1.0 K	0.00348	-0.55
± 1.5 K	0.005	-0.7
± 2.0 K	0.00662	-0.952
± 2.5 K	0.008333	-1.22
± 3.0 K	0.010043	-1.487
± 3.5 K	0.011753	-1.754
± 4.0 K	0.013463	-2.001
± 4.5 K	0.015173	-2.248
± 5.0 K	0.016883	-2.495

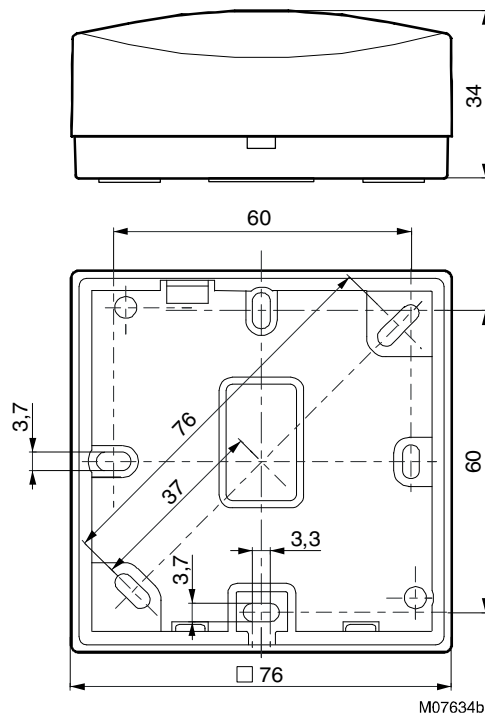
MFA 10 Linearisation correction factors, Index ≥ H

Range	a	b
± 1.0 K	0.2	-0.1
± 1.5 K	0.29	-0.16
± 2.0 K	0.38	-0.24
± 2.5 K	0.48	-0.29
± 3.0 K	0.57	-0.34
± 3.5 K	0.67	-0.4
± 4.0 K	0.775	-0.4
± 4.5 K	0.85	-0.505
± 5.0 K	0.96	-0.53

Note

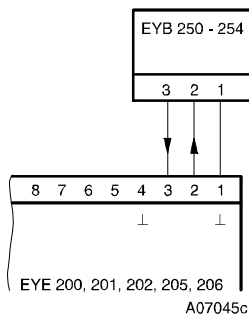
On leaving the comfort mode (presence = 0), the setpoint correction is automatically set to zero.

Dimension drawing

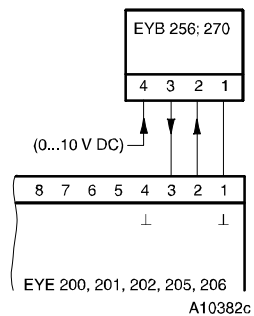


Wiring diagram

EYB250...254



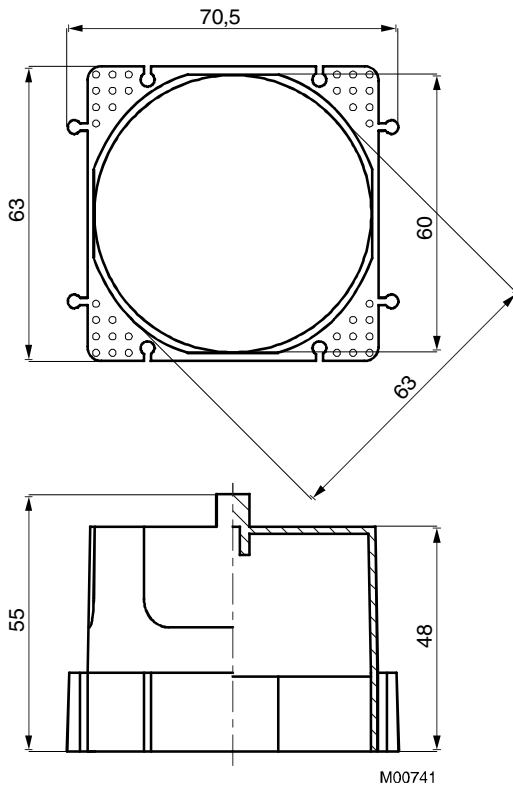
EYB256, 270



In cases where the industry standard (EN 61000-6-2) has to be met, the power cables should be no longer than 30 m.

Accessories

303124



313347

