

EY-RU 146: Room operating unit, EnOcean, ecoUnit146



EY-RU146F201



How energy efficiency is improved

Individual setting of room occupancy mode, fan speed and room setpoint correction, and controlling of lighting and window blinds with precise temperature measurement for energy optimisation in the room

Features

- Part of the SAUTER modulo system family
- Room operating unit with integrated digital temperature sensor
- Bidirectional and compatible with ecosCom581 (EnOcean SMART ACK)
- Compatible with EnOcean interfaces of third-party manufacturers
- Battery-free with LCD, ecoUnit106 push-button unit can be added
- Display with extensive status information on room conditions
- Device insert with transparent front, fits into frame with 55 x 55 mm aperture
- Room climate can be adapted individually
- Selection of three operating modes for room occupancy
- Control of a fan with three speed levels
- Control of window blinds, windows and lights (on/off/dim)
- Frame can be ordered as an accessory
- Frames and foils in many colours and designs possible

Technical data

Power supply

Power supply	3 V, from integrated solar panel (external battery operation optional)
Illuminance	Min. 250 lux, min. 5 hours daily in 5 of 7 days
Dark period ¹⁾	50 h of full operation, 60 h all of most important functions, additional 7 days at least in low power mode

Parameters

Technology	EnOcean, STM 300
Frequency	868 MHz band (868.3 MHz)
Range	Up to 30 m, depending on building structure (planning recommendation: 10 m)

Sensor (temperature)

Measuring range	0...40 °C
Resolution ²⁾	0.1 K (display), 0.2 K (hysteresis)
Time constant	Approx. 7 min.
Measuring accuracy, temperature	Typ. 0.5 K in the 15...35 °C range

Ambient conditions³⁾

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Ambient humidity	5...85% rh, no condensation

Function

Setpoint correction	Adjustable and resettable
Room occupancy (presence)	3 modes, LCD
Fan speeds	5 functions, LCD

¹⁾ Bridging time without lighting when the internal energy storage/battery is fully charged

²⁾ 0.2 K (hysteresis): Measurement value hysteresis for spontaneous transmission (EnOcean telegram)

³⁾ The device may be active during transport. The device is equipped with a permanently installed lithium cell (energy storage/battery)





Interfaces and communication		
Connection ⁴⁾		No wiring necessary, teach-in (pairing) with ecosCom581 or ecoMod580 wireless interface via SLC/RS-485
EnOcean Equipment Profile ⁵⁾		EEP: D2-00-01 (bidirectional, SMART ACK) EEP: A5-10-01 (unidirectional) EEP: F6-03-01 (buttons 3, 4, [7...12 with ecoUnit106])

Construction		
Weight		0.055 kg
Dimensions W x H x D		59.5 × 59.5 × 27.8 mm
Housing		Pure white (similar to RAL 9010)
Labelling insert		Silver (similar to Pantone 877 C)
Fitting		Recessed/surface-mounted (see accessories)

Standards and directives		
Type of protection		IP30 (EN 60529)
Protection class		III (EN 60730-1)
Environment class		3K3 (IEC 60721)
CE conformity according to	EMC Directive 2014/30/EU	EN 61000-6-1, EN 61000-6-3
	Low-Voltage Directive 2014/35/EU	EN 60730-1
	RED Directive 2014/53/EU	ETSI EN 300 220-2 (V3.1.1)
	RoHS Directive 2011/65/EU	EN 50581

Overview of types		
Type	Description	
EY-RU146F201	Room operating unit, EnOcean, LCD, temperature sensor, solar panel, 6 buttons: dXs setpoint correction (+/-), fan, presence, 2 free buttons (window blind/light)	

 The device is supplied with a silver-coloured labelling insert. Spare inserts: 0940001533 (10 pcs.)

 Order frame and mounting plate separately (see accessories)

Accessories		
Type	Description	
EY-SU106F100	Push-button unit with solar panel, 6 push-buttons, without frame	
0940240***	For frames, mounting plates and adapters for third-party frames, see product data sheet 94.055	
0949241301	Transparent cover for EY-RU and EY-SU, 10 pcs.	
0949360004	Push-in terminal RU/SU (for wire), 2 × 10 pcs. 2-pin (01/02, 03/04)	
0940360012	Screw terminal RU/SU (optional for braid), 2 × 10 pcs. 2-pin (01/02, 03/04)	
0949570001	Battery pack, 10 pcs.	
0940001511	Labelling insert, foil, silver, (symbols: +, -), 10 pcs.	
0940001521	Labelling insert, foil, silver, (symbols: +, -, presence), 10 pcs.	
0940001522	Labelling insert, foil, silver, (symbols: +, -, fan), 10 pcs.	
0940001523	Labelling insert, foil, silver, (symbols: +, -, presence, fan), 10 pcs.	
0940001531	Labelling insert, foil, silver, (symbols: +, -, presence, two lights), 10 pcs.	
0940001532	Labelling insert, foil, silver, (symbols: +, -, fan, two lights), 10 pcs.	
0940001533	Labelling insert, foil, silver, (symbols: +, -, presence, fan, two lights), 10 pcs.	

Description of operation

The ecoUnit146 room operating unit measures the room temperature and transmits it via an EnOcean wireless interface gateway to a room automation station with an EnOcean interface. The room operating unit has buttons for setpoint correction, selection of presence mode and fan speed, and up to two freely assignable buttons.

The device is wireless and communicates via the EnOcean wireless protocol. Power is supplied by the integrated solar cell. Thus, no battery is required.

The device can be operated with wireless interfaces from third-party manufacturers. The wireless interfaces must comply with the EnOcean standard and support the EnOcean Equipment Profile (EEP:

⁴⁾ See quick reference for ecosCom581/ecoMod580

⁵⁾ EnOcean Equipment Profile (EEP) V2.6.8 or higher

D2-00-01 or EEP: A5-10-01) used. Together with the ecosCom581 wireless interface, the device can be used with ecos 5 and ecos311 room controllers and modulo 6 automation stations. The bidirectional EnOcean function means that the room controller can influence the content of the LCD.

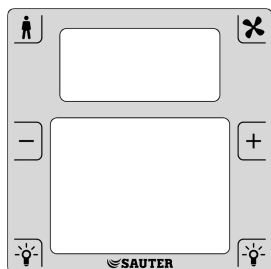
Intended use

This product is only suitable for the purpose intended by the manufacturer, as described in the "Description of operation" section.

All related product regulations must also be adhered to. Changing or converting the product is not admissible.

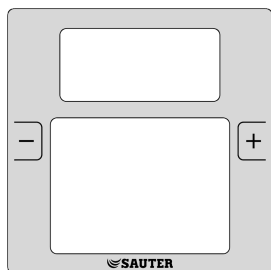
Labelling inserts

The scope of delivery includes the following labelling insert, one pc.:

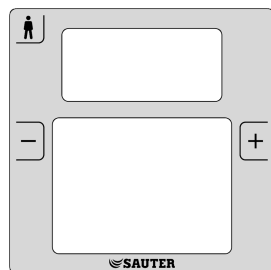


0940001533

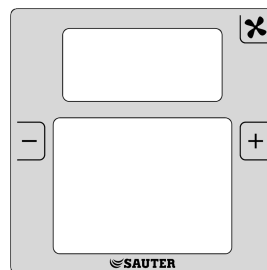
The room operating unit can be adapted to the room conditions with the following labelling inserts:



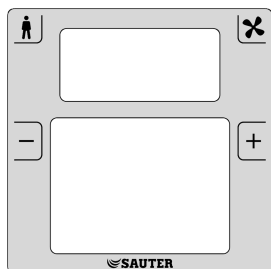
0940001511



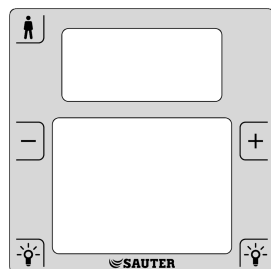
0940001521



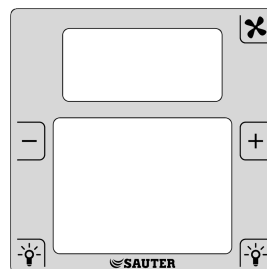
0940001522



0940001523



0940001531



0940001532

The labelling inserts can each be ordered in packs of 10.

Engineering and fitting notes

The ecoUnit146 room operating unit is suitable for various fitting methods. Product data sheet 94.055 shows the fitting options and available frames, as well as other accessories.

The use of third-party frames usually needs to be checked in advance. Frames made of metal or with metal coating can significantly reduce the wireless range.

The 6 button functions can be added to the room operating unit and it can be supplied with additional solar energy via the ecoUnit106 push-button unit. The room operating unit can be supplied with power by an external button cell battery as an alternative or in addition to the ecoUnit106.

The ecoUnit106 push-button unit is connected to the room operating unit with a 4-core connection and can only ever be used in conjunction with this device. The total cable length between the two devices must not exceed 1 metre.

When selecting a suitable place of installation with regard to wireless characteristics and solar energy supply, the application notes for the ecosCom581 wireless interface with ecoUnit 1 must be followed.

More information about EnOcean wireless technology and the positioning of the wireless interface and the room operating units is available in the “Engineering using EnOcean wireless technology” manual.

Additional technical documents

Document/name	
Fitting instructions	P100018767
Quick reference (BA)	P100013784
Declaration on materials and the environment	MD 94.013
Product data sheet “Frame for device insert”	PDS 94.055
Product data sheet “Wireless Interface, EnOcean, ecosCom581”	PDS 94.016
Manual “Engineering with EnOcean wireless technology” (SAUTER EnOcean application notes)	7010084001, see SAUTER extranet
ROOM_UNIT function module	Online help for CASE Suite/Engine

Connection to controllers and automation stations

The room operating unit exchanges information with the ecosCom581 wireless interface (transmit/receive). The wireless interface is connected to the SLC interface of the automation station or controller by means of a 4-core cable. The unit must be disconnected from the electrical supply when the wireless interface is being connected to the station. Up to four ecoUnit146 for ecos 5 and modulo 6 or one ecoUnit146 for ecos311 can be assigned to a wireless interface.

Further information on the wireless interface can be found in the product data sheet 94.016.

Addressing

The room operating unit transmits its data based on the EnOcean standard. Each room operating unit has a unique address (EnOcean ID) due to the EnOcean wireless sensor module (STM 300) that is used. This address is permanently stored in the wireless interface during the teach-in and assigned to a channel. No address setting is required on the room operating unit.

Energy supply and selecting the place of installation

The energy is supplied by the integrated solar panel; the solar energy is stored in a small industrial lithium cell.

The following dependencies with regard to incoming light must be considered when selecting the place of installation:

Minimum illuminance	Lighting duration at place of installation
EY-RU146F201:	
125 lux	Min. 10 h a day
250 lux	Min. 5 h a day
EY-RU146F201 with EY-SU106F100:	
125 lux	Min. 5 h a day


The lighting times are for a weekly cycle of five days' bright period followed by a dark period of two days. The minimum illuminance applies to artificial light (fluorescent tube with colour code 840). More favourable values may occur in daylight. The minimum illuminance, with the appropriate lighting duration and the usual number of button activations (max. 20 per day), is sufficient for a measuring cycle of 180 seconds (as delivered ex works). Shorter measuring cycles require more energy and, therefore, a higher illuminance or lighting duration.

The integrated energy storage is completely filled after a lighting cycle with minimum lighting parameters. It is recommended to charge the unit in daylight with at least 1000 lux for several days before using it. For comparison: The workplaces ordinance prescribes a minimum illuminance of 500 lux for office workstations.

The device should ideally be installed so that the solar panel faces the window. However, direct solar radiation should be avoided. Direct solar radiation would result in incorrect values when measuring the temperature. Additionally, direct solar radiation over a lengthy period can permanently reduce the effectiveness of the built-in solar panel.

Walls and niches that are not sufficiently illuminated during the day should be avoided. The place of installation should also be selected based on the future use of the room, ensuring that shadowing caused by users is avoided, e.g. via items of furniture or office materials.

Bridging time without lighting and the Low Power mode

Thanks to the integrated energy storage, the full operation of the room operating unit is ensured even during extended periods of darkness, e.g. in unused rooms over the weekend. The room operating unit independently monitors the state of charge of the energy storage and switches to Low Power mode when the charging state is low. The functions of buttons 3 and 4 and, if applicable, buttons 7 to 12 of the ecoUnit106 or other EnOcean PTM buttons are still available. In addition, the device transmits the room temperature every ten minutes in Low Power mode. The functions of buttons 1 (presence), 2 (-), 5 (+) and 6 (fan) are not available in Low Power mode. Low Power mode is indicated by the info symbol .

The specified bridging times without lighting apply to the bidirectional mode. In unidirectional mode the times will be higher. The specified bridging time relates to a completely charged energy store. Normally, there is still full functionality after a dark period of about 50 to 60 hours. If a dark period lasts longer, the device can be switched from Low Power mode to full functionality mode within the first hour by activating the room lighting (switch on light with button 3 or 4).

Rooms with insufficient daylight

A button cell battery (CR2032) can be used to supply power to the device in rooms with insufficient daylight, see accessory 0949570001. The plug of the battery pack is connected to terminals 01, 02, 03 (NC, -, +) and stored on the rear of the unit.

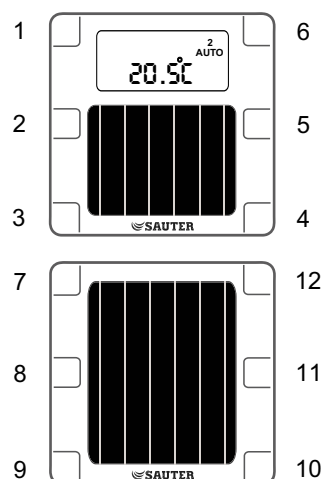
The device must be configured for battery operation (configuration identifier 4).

The operating time of the room operating unit with the battery is approx. 5 years.

Device functions

The following data is transmitted to the wireless interface from the room operating unit:

- Temperature
- Setpoint adjusters
- Presence mode (comfort, reduced, lowered)
- Fan function (5-speed: AUTO, 0, 1, 2, 3)
- Switching functions for lights and window blinds. When a button is pressed and released, a transmission command is executed



Button assignment of ecoUnit146 with ecoUnit106

Button	Function
1	Presence mode
2	Reduce setpoint (-)
3	Freely allocatable
4	Freely allocatable
5	Increase setpoint (+)
6	Fan speed
7 to 12	Freely allocatable

Operating modes

Bidirectional mode:

The room operating unit works together with the SAUTER controllers in bidirectional mode, i.e. data and information is transmitted in both directions (VDL telegram with SMART ACK, EEP D2-00-01).

Unidirectional mode:

The room operating unit can also be operated in unidirectional mode with receivers from third-party manufacturers if EEP A5-10-01 (unidirectional Room Operating Panel) is supported. In this case, the display shows the last data sent to the receiver (4BS wireless telegram). The unidirectional operating mode can be set by configuration (configuration identifier 5). If the room operating unit is working together with receivers from third-party manufacturers, the temperature display can be selected in °C or °F via the configuration. The value for the temperature display comes directly from the built-in sensor and not as a response from the controller via the ecosCom581 wireless interface.

In addition, it is also possible to teach in the temperature measurement in unidirectional mode as “only sensor temperature” with the ecosCom581 wireless interface, if for example the temperature measurement for the control in the room is to be carried out via the optimally positioned sensor.

Display and communication

To ensure optimum availability of the room operating unit even in poor lighting conditions, the display is switched off after a user action ends. According to the set transmission parameters, the actual temperature value is still transmitted periodically.

The display is activated by pressing a button (1, 2, 5 or 6). The data is synchronised between the ecosCom581 wireless interface and the room operating unit. The display shows the current values that were sent by the controller. Buttons 1 and 6 activate the display only if the “presence” or “fan” functions are enabled with the controller (DsbIMode, DsbIFan = 0).

When one of buttons 3 or 4 and a button on the ecoUnit106 push-button unit is pressed, the button status is immediately transmitted to the controller (RPS telegram). To save energy, the display is not activated.

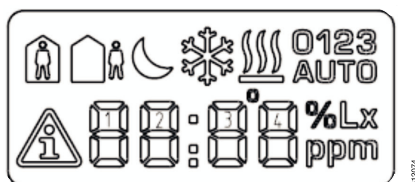
The values for setpoint correction, fan speed and presence mode are first displayed on the room operating unit via the integrated rotating circuit and then sent to the controller. The transmission is only performed approx. 3 seconds after any button has been pressed. After transmission, the room operating unit synchronises with the controller user program, which is harmonised with the rotating circuit of the room operating unit.

The offset value can be reset to 0 by the controller. The display must first be activated with button 2 or 5 so that the reset value (0) of the controller can be synchronised with the room operating unit via the ecosCom581 wireless interface. This also applies to the synchronisation of the offset valid flag in the event of a voltage or communication interruption of the wireless interface.

Transmission of the fan speed and the presence mode:

The room operating unit transmits the selected fan speed or presence mode as an absolute value to the ecosCom581 wireless interface. The wireless interface sends pulses to the controller until the feedback of the controller corresponds to the selected fan speed or the selected presence mode.

Display and seven-segment display



The seven-segment display is used for the following functions:

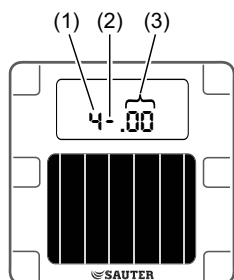
Function	Display
Actual value/setpoint display °C	3-character temperature value: Characters 1 to 3: "00.0...40.0" Character 4: "°C" (Range 0...40 °C, resolution 0.1 K)
Actual value/setpoint display °F	3-character temperature value: Characters 1 to 3: "32.0...99.9" Character 4: "°F" (Range 32...99.9 °F, resolution 0.2 K)
Setpoint correction °C/°F	2-character correction value: Character 1: "±" Characters 2 and 3: "0.0...9.9" Character 4: "°C" or "°F"

Additional display of following functions possible in bidirectional mode:

Function	Display
Date	DD:MM
Time	HH:SS
Relative humidity (rH)	Character 1: "r" Character 2: "H" Characters 3 and 4 as value: "00...99" "% " is also displayed
Illuminance (lx)	Characters 1 to 4: "0000...9999" "Lx" is also displayed
Per cent (%)	Characters 1 to 4: "00.00...99.99" "% " is also displayed (Range 0...0.9999, "100%" displayed for value 1.0)
Parts per million (ppm)	Characters 1 to 4: "0000...9999" "ppm" is also displayed (Range 0...0.009999)

Device configuration


Configuration display



- (1) Configuration identifier (character 1)
- (2) Sign (-) (character 2)
- (3) Setting/value (characters 3 and 4)

Configuration identifier (character 1)	Description	Default values (characters 3 and 4)
0	Configuration access	00 = Manual and service tool (default) 01 = Only via service tool Note: This mode can only be modified using the service tool.
1	Measuring cycle	00 = No measurement (only operation) 01...60 = 10...600 sec. Default: 18 = 180 sec.

Configuration identifier (character 1)	Description	Default values (characters 3 and 4)
2	Mandatory cycle	00 = Transmit for every measuring cycle 01...07 = Transmit every 5...35 measuring cycles Default: 01 = Every 5 measuring cycles Note: If the mandatory cycle time is > 120 min., this parameter is reset to a lower value.
3	Measured value hysteresis for spontaneous transmission If the hysteresis threshold is exceeded, the measured value is transmitted immediately, regardless of the mandatory cycle	00...15 = As a multiple of 0.2 K Default: 01 = 0.2 K Examples: 00 = 0 K 05 = 1 K (5 × 0.2 K) 10 = 2 K (10 × 0.2 K)
4	Normal operation or battery operation	00 = Normal (default) 01 = Battery
5	Selection of operating mode or lock for keys 1 and 6 (unidirectional)	Bidirectional mode (EEP: D2-00-01): 00 (default) Unidirectional mode (EEP: A2-10-01): 01 = Only dXs 02 = dXs + presence function 03 = dXs + fan function 04 = dXs + presence + fan
6	Display selection for actual value, °C or °F	00 = °C (default) 01 = °F
7	Display and setting range for setpoint correction	00...99 = Range 0.0...±9.9 K 20 = Range -2.0...2.0 (default)
8	Resolution of setpoint correction range (Number of steps in relation to 0...max. value) Transmission of setpoint correction is defined as unsigned number 0...255. The set resolution affects the change in value each time the button is pressed: Value = 255 / (2 × resolution)	00...99 Default: 04 = Resolution 32 (= 255 / (2 × 04)) Display at the default setting: Display and setting range: -2.0 °...2.0 ° Resolution 04: The display and setting range is divided into 4 steps Display: -2/-1.5/-1/-0.5/0/0.5/1/1.5/2 Value transmission: 0/32/64/96/128/160/192/224/255
9	Correction value To adjust the display value (Xi). The correction value is added to the measured actual value with the correct sign. The device sends Xi + correction value.	00...99 = Value range 0.0...9.9 K Character 2 = sign (-) Default: 00 = 0.0 K
A	Display of setpoint correction with or without unit °C or °F	00 = Display of the numerical value with unit (default) 01 = Display of the numerical value without unit
F	Version display of the room control unit firmware	–

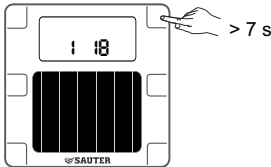
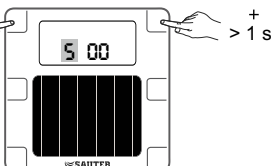
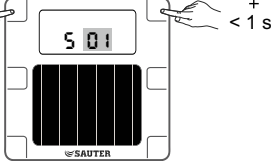
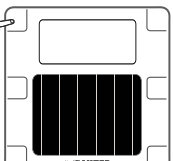
 The configurations with identifiers 6 to 9 are overwritten by the controller or the automation station when used with the SAUTER EnOcean ecosCom581 wireless interface (compare to CASE Engine function module "ROOM_UNIT")

Display of the setpoint correction

When button 2 (–) or 5 (+) is pressed, the last valid setpoint correction is displayed and is changed according to the definition.

- Bidirectional mode: Range and steps are from the entry in function module "ROOM_UNIT" of the controller.
- Unidirectional mode: Range and steps according to configuration identifiers 7 and 8 in the room operating unit (see section "Device configuration").

Configuration modification

Step	Button/action	Description
1	Switching to the configuration mode 	Keep button 6 pressed for at least 7 sec. The device changes to configuration mode. Three characters are displayed (character 1: configuration identifier; characters 3 and 4: set value; characters 2: sign (-) for negative values, such as configuration identifier 9). Note: While button 6 is pressed, the display goes on for about 5 sec. and stays off until the button is released. Starting from now, button 1 or 6 must be pressed within 10 sec., as otherwise the device switches back to the operating mode.
2	Selecting the configuration identifier 	Select the configuration identifier with button 1 (decrease) and button 6 (increase). The buttons must be pressed for longer than 1 sec. If the highest configuration identifier F is increased, the device switches back to identifier 0. If identifier 0 is decreased, the device switches to identifier F.
3	Changing the parameter value 	Use button 1 (decrease) and button 6 (increase) to change the displayed value. The buttons must be pressed for less than 1 sec. If the buttons are pressed for longer than 1 sec., the device switches to the next or previous configuration identifier.
4	Saving the configuration and leaving the configuration mode 	Keep button 1 pressed for at least 5 sec. The changes have now been saved and you can release the button. Note: While button 1 is pressed, the previous configuration identifier is displayed for approx. 2 sec. The display is then switched off.
5	Exiting from configuration mode without saving data	When button 1 or 6 is not pressed for at least 10 sec., the device switches back to operating mode. Changes are not saved.

EnOcean transmission standards

The ecoUnit146 room operating unit transmits its data according to the EEP specification (V 2.6.8 or higher):

Functions of the room operating unit (buttons 1, 2, 5, 6):

- Bidirectional mode:
 - EEP D2-00-01 via VLD wireless telegram (for use with ecosCom581 EnOcean wireless interface)
- Unidirectional mode:
 - EEP A5-10-01 via 4BS wireless telegram (for use with EnOcean receivers of other manufacturers)

Switching functions (buttons 3, 4, 7 to 12: EEP F6-03-01 via RPS telegram).

Description of EEP A5-10-01 wireless telegram

EnOcean profile: Room operating unit – temperature sensor, setpoint, fan speed and presence mode			
Data byte	Contents	Value range	Function
DB_3	Level AUTO	210...255	Fan speed
	Level 0	190...209	
	Level 1	165...189	
	Level 2	145...164	
	Level 3	0...144	
DB_2	Setpoint adjusters	min. - ... max. +, linear n = 0...255	Temperature setpoint
DB_1	Temperature	0...40 °C, linear n = 255...0	Temperature sensor

EnOcean profile: Room operating unit – temperature sensor, setpoint, fan speed and presence mode			
Data byte	Contents	Value range	Function
DB_0.BIT_3	Teach-in button	0 = Teach-in telegram 1 = Data telegram	Teach-in/data mode
DB_0.BIT_0	Presence button	0 = Button pressed	Presence modes (comfort, reduced, lowered)

Description of EEP F6-03-01 wireless telegram

EnOcean profile: Rocker switch, 4 rockers – control of lighting / window blinds – app. style 1		
Data byte	Button	Value
DB_0 when the button is pressed	Button 3	0x10
	Button 4	0x30
	Button 7	0x50
	Button 8	0x90
	Button 9	0xD0
	Button 10	0xF0
	Button 11	0xB0
DB_0 when the button is released	Button 3	0x00
	Button 4	0x20
	Button 7	0x40
	Button 8	0x80
	Button 9	0xC0
	Button 10	0xE0
DB_0.BIT_4	“Energy Bow” released	0b0
	“Energy Bow” pressed	0b1

☀ *N-message status field: T21 = 0; NU = 1*

Teach-in

Teaching in or addressing takes place in the operating mode of the ecoUnit146. When button 1 is pressed for at least 5 seconds, the ecoUnit146 sends a teach-in telegram. The immediate transmission of the temperature is also forced.

The receiver, ecosCom581, is always put in learning mode first (the teach-in procedure is a characteristic of the receiver used). The operating device is then manually prompted to send a learning telegram. If the receiver is not in learning mode, an operating device cannot be assigned. Any learning telegram that may have been sent has no effect.

Display of the teach-in procedure

The ❄ (snowflake) symbol indicates a successful teach-in procedure. If symbol ❄ is not displayed after the teach-in button is pressed (at least 5 sec.) it must be assumed that the teach-in has failed.


If a colon (bottom line) is displayed in addition to symbol ❄, this is an indication that this RU has already been taught in (either on the current wireless interface or another one). The teach-in procedure is also successfully completed when symbol ❄ and a colon are displayed.

If during the teach-in procedure the teach-in button is released before symbol ❄ is displayed (or if there is an error message), you must wait for the display to clear before pressing the teach-in button again. Only then can a new teach-in procedure be started.

If the teach-in has failed, the info symbol is displayed together with an error message (Err2...ErrC). If an error message is displayed, the teach-in must be repeated.

Error messages

Error code	Meaning, cause and remedy
Err2	No communication to the wireless interface Cause: Not taught in, device is outside wireless range, interfering transmitter prevents communication
Err3	Internal error Cause: Device is faulty
Err4	“LEARN OUT” feedback received Cause: Teach-in was not successful Solution: Repeat teach-in procedure
Err5	Invalid EnOcean telegram received (CHOICE). Repeat teach-in procedure or request
Err6	Mailbox is not available Cause: Teach-in procedure was incomplete Solution: Repeat teach-in
Err7	Mailbox is empty Cause: Wireless interface could not answer request in time Solution: Repeat the request by pressing the button again Note: If the message remains, the teach-in procedure should be repeated
Err8	Internal error, EEP EnOcean profile is invalid Cause: Interfering transmitter prevents correct communication or device is faulty
Err9	Postmaster is full. No other mailboxes possible Cause: Maximum number of mailboxes at the postmaster has been reached. Internal error in the wireless interface Solution: Delete all transmitters and memories in the wireless interface. Then teach in the transmitter again
ErrA	Controller is full. No other mailboxes possible Cause: Maximum number of mailboxes at the controller has been reached. Internal error in the wireless interface Solution: Delete all transmitters and memories in the wireless interface. Followed by repeated teach-in of transmitters
ErrB	Wireless signal to wireless interface is too weak Cause: Device is outside the wireless range. Interfering transmitter is preventing communication Solution: Change the position of the wireless interface or the room operating unit (transmitter) to achieve a reliable wireless connection. Further information can be found in the application notes for the ecosCom581 wireless interface with ecoUnit 1
ErrC	Invalid telegram. The received telegram is faulty and was rejected Cause: Interfering transmitter is preventing reliable communication Solution: Repeat the request by pressing the button again. If the error occurs multiple times, the interfering transmitter must be removed

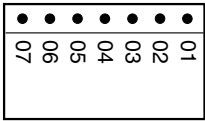
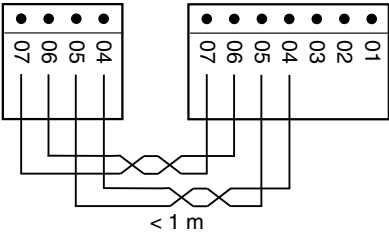
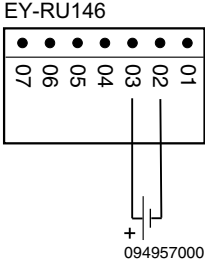
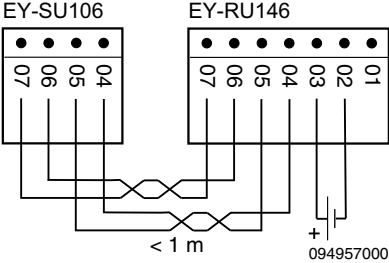
 Error messages Err2, Err5, Err6, Err7 and ErrC may also occur in normal operation. All other error messages may appear during the teach-in

Disposal

When disposing of the product, observe the currently applicable local laws.

More information on materials can be found in the Declaration on materials and the environment for this product.

Connection diagram

Connection without push-button unit	Connection with push-button unit	Terminal	Description
<p>EY-RU146</p> 	<p>EY-SU106 EY-RU146</p> 	01	Not used
		02	- Battery (GND)
		03	+ Battery (typ. 3 V)
		04/05	Solar panel
		06/07	Push-button function
<p>Connection without push-button unit, with battery</p> <p>EY-RU146</p>  <p>0949570001</p>	<p>Connection with push-button unit, with battery</p> <p>EY-SU106 EY-RU146</p>  <p>0949570001</p>		

Note



Use only battery from accessory 0949570001.

Dimension drawing

All dimensions in millimetres.

