

ecoMod580: Wireless interface for room automation station

How energy efficiency is improved

Integration of energy-harvesting sensors with the EnOcean wireless standard

Areas of application

ecos 5 wireless interface to connect wireless-based operating units and sensors using the EnOcean wireless protocol, for energy-efficient room control

Features

- Part of the SAUTER EY-modulo 5 system family
- Integration of SAUTER's wireless room operating units, ecoUnit110...146
- Operating buttons with display for manual integration of additional EnOcean sensors
- Wireless interface in a wide range of designs and colours

Technical description

- Power supply from ecos 5
- Sub-bus EIA-485 interface, SLC protocol
- Cable entry on rear, pluggable connection terminals for 0.12 to 0.5 mm² wires (Ø 0.4...0.8 mm)



Products

Type	Description
EY-EM580F001	Wireless interface with EnOcean wireless standard

Technical data

Electrical supply

Power supply	from ecos 5
Power consumption	typically 60mA

Version

Wireless technology	EnOcean, TCM300
Transmission frequency	868.3 MHz
Range	Approx. 30 m, depending on structure
Connection	
Cable	4-core, twisted (screening advisable)
Length	up to 100 m

Permissible ambient conditions

Operating temperature	0...40 °C
Storage and transport temperature	-25...70 °C
Humidity	10...85% rh no condensation

Installation

Installation	Recessed/surface-mounted (see list of accessories)
Dimensions W × H × D (mm)	59.5 × 59.5 × 25
Weight (kg)	0.1

Standards, directives

Type of protection	IP 30 (EN 60529)
Protection class	III (EN 60730-1)
Environmental class	3K3 (IEC 60721)
CE conformity as per	
EMC Directive 2004/108/EC	EN 61000-6-1 EN 61000-6-2 EN 61000-6-3 EN 61000-6-4
Radio directive R&TTE 1999/5/EC	EN 50371, EN 300489-1 (V1.8.1) EN 300489-3 (V1.4.1) EN 300220-1 (V2.1.1) EN 300300-2 (V2.1.2)

Additional information

Fitting instructions	MV P100004688
Operating instructions	P100007832
Application information	see Sauter website
Material and environmental declaration	MD 94.015
Dimension drawing	M11434
Wiring diagram	A10628

Accessories

Type	Description
	Mounting (ceiling/wall mounting)
0949360002	Plug-in connector for ecos room control units (10 pcs.)
0949241301	Transparent cover (10 pcs.)
0949241302	RAL9010 white cover (10 pcs.)
0940240***	For frames, fixing plates and adaptors for third-party frames, see product data sheet PDS 94.055

Engineering notes

Installation

The ecoMod580 wireless interface is suitable for various types of mounting. Product data sheet PDS 94.055 shows the mounting options and the accessory material required.

Connection to ecos 5

The wireless interface is connected to the ecos 5 via a four-core cable. The wireless interface must be connected only when the power supply is switched off. Up to four ecoUnit 1 and several EnOcean transmitters can be assigned to one wireless interface. The room operating unit sends its information to the ecoMod580 wireless interface. For more information on the room operating unit, see PDS 94.010.

Mixed operation with the wired devices (ecoUnit 3) is possible.

System limitations

Mixed operation	ecoMod580	ecoUnit 3
Yes	1	1 to 2
No	1	0

Wireless interface address

The wireless interface can be coded for up to four address ranges. Up to sixteen EnOcean devices can be entered in each address range. The EnOcean ID is stored in the wireless interface during the initial teach-in process.

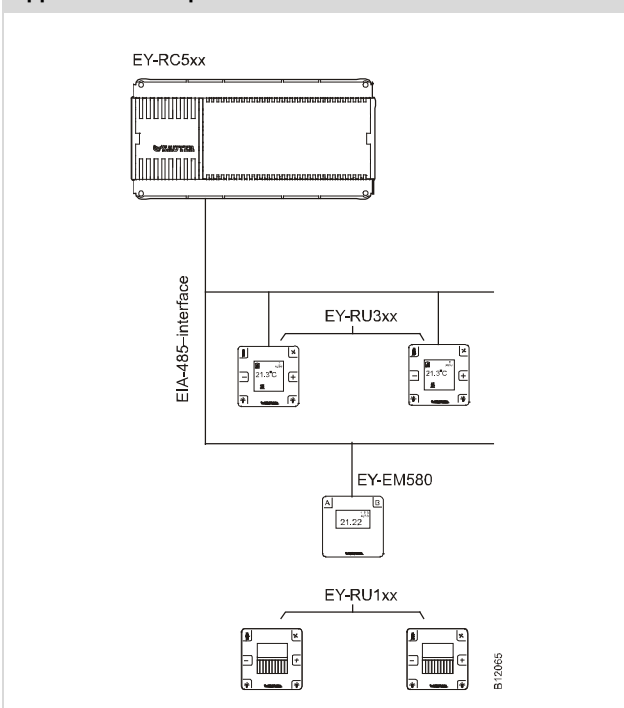
Summary of functions

The wireless interface is a transmitter as well as a receiver for EnOcean wireless signals.

The ecoMod580 receiver is connected to the ecos 5 via the EIA-485 interface (SLC protocol) and, in relation to the ecos 5, it behaves as a device for up to four ecoUnit 3 room operating units.

- With mixed operation (wired/wireless), each channel address must occur only once.
- One channel corresponds to the data scope of one ecoUnit 3 room operating unit (ROOM_UNIT firmware module).
- Up to sixteen different transmitter types (profiles) (addresses 0...F) can be 'learned' on one channel. The transmitters (i.e. the assignment of the EnOcean transmitter to the receiver) are learned on the relevant ecoUnit channel.
- When a telegram is received from a transmitter that has been learned, the snowflake symbol flashes briefly on the LCD display.

Application example



Bi-directional mode

The wireless interface operates in bi-directional mode in conjunction with the ecoUnit 1.

Learning/addressing

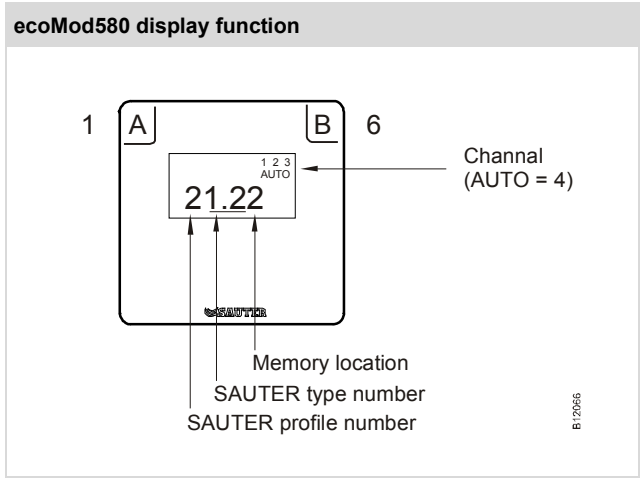
ecoMod580 is switched to teach-in mode, and then the operating unit (transmitter) is manually induced to send a learning telegram.

If the ecoMod580 is not in teach-in mode, no operating unit can be assigned. If a learning telegram is sent, it will have no effect.

While no EnOcean ID has been assigned to an ecoMod580 channel, it will be impossible to address the channel, i.e. it will not react to an ecos data enquiry. This ensures mixed operation with a wired ecoUnit 3.

ecoMod580 teach-in mode, push-button operation

Please consult the operating instructions for information on how to enable teach-in mode and how to 'teach in' transmitters.



Special features of communication between ecoUnit1 and ecoMod580

Communication monitoring

If there is no communication between ecoUnit 1 and ecoMod580, the ecoUnit 1 display shows the *Err2* message. This error message disappears again automatically once communication is restored. If there is no communication between ecos 5 and ecoMod580, the ecoMod580 display shows the *Err2* message. In this case, no wireless telegrams are sent to the ecoUnit 1. Consequently, this error message is also shown on the ecoUnit 1 display.

Offline detection of individual transmitters/ecoUnits

The gateway cyclically sends the various available values (temperature, luminance, etc.) back to the ecos 5. When it is no longer possible to address the sensor for the relevant value, this value is no longer sent to the ecos 5. The corresponding *Valid* output of the ROOM_UNIT firmware module is flagged, i.e. with '1' for valid values and '0' for invalid values. The time until a value is 'de-registered' is about 120 minutes.

