

EY-EM 580: Wireless interface, ecoMod580

Improving energy efficiency

Integration of energy harvesting sensors with the EnOcean wireless standard

Features

- Part of the SAUTER EY-module 5 system family, bi-directional wireless communication for energy-efficient control of the room
- Incorporation of SAUTER ecoUnit110...146 wireless room control units and other EnOcean wireless standard sensors/actuators
- Wireless interface in a wide range of designs and colours
- Device insert with transparent front, fits into frame with 55 x 55 mm aperture
- Frame can be ordered as an accessory



EY-EM580F001



Technical data

Power supply

Power supply	From ecos 5
Current consumption	Typically 60 mA

Ambient conditions

Operating temperature	0...40 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh

Interfaces, wireless communication

Wireless technology	EnOcean, TCM300
Transmission frequency	868.3 MHz
Range	Approx. 30 m, depending on structure

Connection to automation station

Interface	RS485
Protocol	SLC
Activation	ecos 5, modu521
Line	4-wire, twisted (shielding recommended)
Cable length	≤ 100 m

Construction

Fitting	Recessed/surface-mounted (see list of accessories)
Dimensions W x H x D	59.5 × 59.5 × 25 mm
Housing	Pure white (RAL 9010)
Plastic insert	Silver (similar to Pantone 877 C)
Weight	0.1 kg

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 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
R&TTE Wireless Directive 1999/5/EC	EN 50371, EN 300489-1 (V1.8.1) EN 300489-3 (V1.4.4) EN 300220-1 (V2.1.1) EN 300200-2 (V2.1.2)

Overview of types

Type	Properties
EY-EM580F001	Wireless interface, bi-directional, with EnOcean wireless standard



Accessories	
Type	Description
0940240***	For frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.055
0949241301	Transparent cover for EY-RU 310 (10 pcs.)
0949241302	RAL 9010 white cover for EY-RU 310 (10 pcs.)
0949360004	Plug-in connectors ecoUnit, 2-pin, "01/02", "03/04" (2 x 10 pcs.)

Description of operation

The ecoMod850 wireless interface is used to integrate SAUTER ecoUnit 1 room operating units and other standard EnOcean devices with the room controllers of the ecos 5 system family.

The ecoMod580 provides 4 communication channels. An ecoUnit 1 room operating unit and up to 15 standard EnOcean devices can be assigned to each of these channels. The wireless interface supports bi-directional communication with EnOcean devices.

More information about EnOcean wireless technology and the positioning of the wireless interface and the room operating units is available in the "Project engineering using EnOcean wireless technology" manual (7010084001).

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.

Engineering notes

Fitting

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

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.

Connection to ecos 5

The wireless interface must be connected to the ecos 5 using a 4-core cable. The wireless interface must be disconnected from the power while it is being connected. Up to 4 ecoUnit 1 devices and several EnOcean transmitters can be assigned to a wireless interface. The room operating unit sends its information to the ecoMod580 wireless interface. Further information on the room operating unit can be found in product data sheet PDS 94.011.

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

System limitation

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

Address of the wireless interface

The wireless interface can be coded for up to 4 address ranges. Up to 16 EnOcean devices can be recorded in each address range. The EnOcean ID is saved in the wireless interface during programming.

Summary of functions

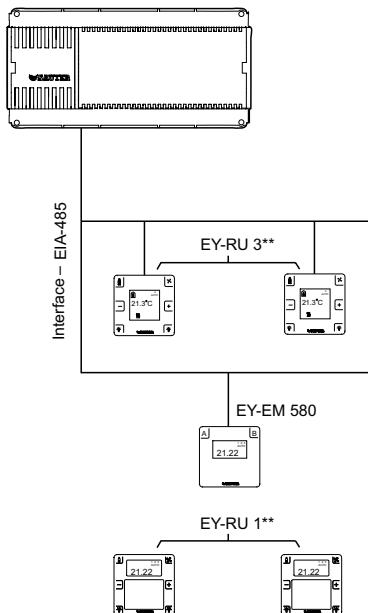
The wireless interface is both a transmitter and a receiver for EnOcean wireless signals.

The ecoMod580 receiver is connected to the ecos 5 via an EIA-485 interface (SLC protocol) and, as far as the ecos 5 is concerned, it behaves like a device for 1 to 4 ecoUnit 3 room operating units.

- In mixed mode (wired/wireless), each channel address may only occur once.
- One channel corresponds to the data content of an ecoUnit 3 room operating unit (firmware module ROOM_UNIT).
- Up to 16 (address 0...F) different transmitter types (profiles) can be taught in on one channel. The transmitter programming process (assigning an EnOcean transmitter to the receiver) takes place on the relevant ecoUnit channel.
- If a telegram from a taught-in transmitter is received, the "snowflake" symbol on the LCD flashes briefly.

Application example

EY-RC 5**



Bi-directional mode

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

New functions from device index F

From device index F, the ecoMod 580 supports resetting the setpoint correction for ecoUnit1, version F100. In addition, from index E, a multi-sensor can be taught in parallel to the wireless room operating unit, with the brightness of the multi-sensor also being transferred with a higher-mapped room operating unit.

Teaching-in/addressing

ecoMod580 is brought into learn mode; the operating unit (transmitter) is then instructed manually to send a learning telegram.

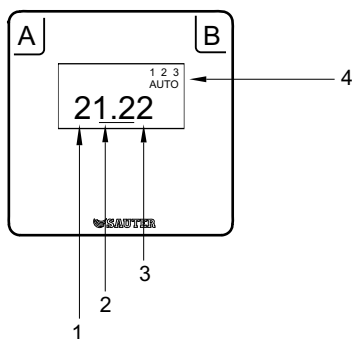
If the ecoMod580 is not in learning mode, no operating unit can be assigned. A learning telegram that may have been sent has no effect.

As long as no EnOcean ID has been assigned to an ecoMod580 channel, this channel cannot be addressed, i.e. it does not respond to an ecos data query. This guarantees mixed mode with a wired ecoUnit 3.

ecoMod580 learning mode, key operation

Instructions on activating the learning mode and carrying out teaching-in of transmitters are contained in the operating instructions.

ecoMod580 display function



- 1 = SAUTER profile no.
- 2 = SAUTER type no.
- 3 = memory
- 4 = channel (AUTO = 4)

Features of communication between ecoUnit 1 and ecoMod580

Communication monitoring

If there is no communication between ecoUnit 1 and ecoMod580, the message Err2 appears on the ecoUnit 1 display. This error message disappears again automatically once communication has been established. If there is no communication between ecos 5 and ecoMod580, the message Err2 appears on the ecoMod580 display. In this case there are no wireless telegrams to the ecoUnit 1. As a result, this error message is also shown in the ecoUnit 1 display.

Offline detection of individual transmitters/ecoUnits

The gateway sends the various available values (temperature, brightness, etc.) back to ecos 5 cyclically. If the sensor for the relevant value cannot be addressed, this value is no longer transmitted to ecos 5. The relevant valid output of the firmware module ROOM_UNIT is marked, i.e. a "1" for valid values and a "0" for invalid values. The time until a value is logged off is approx. 120 min.

Additional information

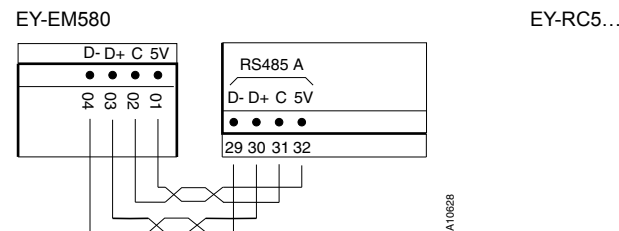
Fitting instructions	P100004688, see SAUTER homepage
Operating instructions	P100007832, see SAUTER homepage
Application notes	7010084001 A, see SAUTER EXTRANET
Declaration on materials and the environment	MD 51.374, see SAUTER homepage

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



Dimension drawing

