

Systems

Components

Services

Facility Services

P100014592



Intelligent room automation.

Excellent room climate and energy efficiency –
integrated, modular, open.

SAUTER's integrated room automation brings you personalised **comfort** and **flexibility** while ensuring maximum **energy efficiency**.

Comfort



Enjoy absolute comfort and be productive with a synchronised and integrated solution for all room functions:

- Increased ability to concentrate on the part of personnel due to the pleasant indoor air quality and precise temperature control
- Maximum daylight usage and glare protection through control of window blinds
- Synchronised lighting adjustment
- The room users can make adjustments any time
- Standardised room functions according to VDI 3813/3814

Design



Room operating units adapt to the architecture of the rooms:

- Integrated into the frames of the light switch ranges
- Individual labelling and colour scheme
- Can be fitted directly onto glass with wireless room operating units
- From rotary knobs to touch panels – choose a device with different functions and designs

Modular room automation stations for efficient installation and commissioning:

- Bus-capable input/output modules for decentralised installation
- Modular design for plug-in system distributors

Flexibility



Configure the room division during ongoing operation:

- Modular automation using flexible room segments gives you complete flexibility when a room is needed for a different purpose
- Create rooms by simply combining the room segments, allowing you to move the walls through a few mouse clicks
- Being able to change the room division during ongoing operation prevents downtimes and saves rewiring costs

Energy and cost efficiency



Reducing energy consumption and operating costs with a balanced overall solution for all systems:

- Seamless integration into the building management system
- Presence-dependent control of the room conditions, thereby optimising heating, cooling, ventilation, lighting and sunshading
- Demand-led ventilation using CO₂ sensors
- Reduce cooling load by using automatic sunshading

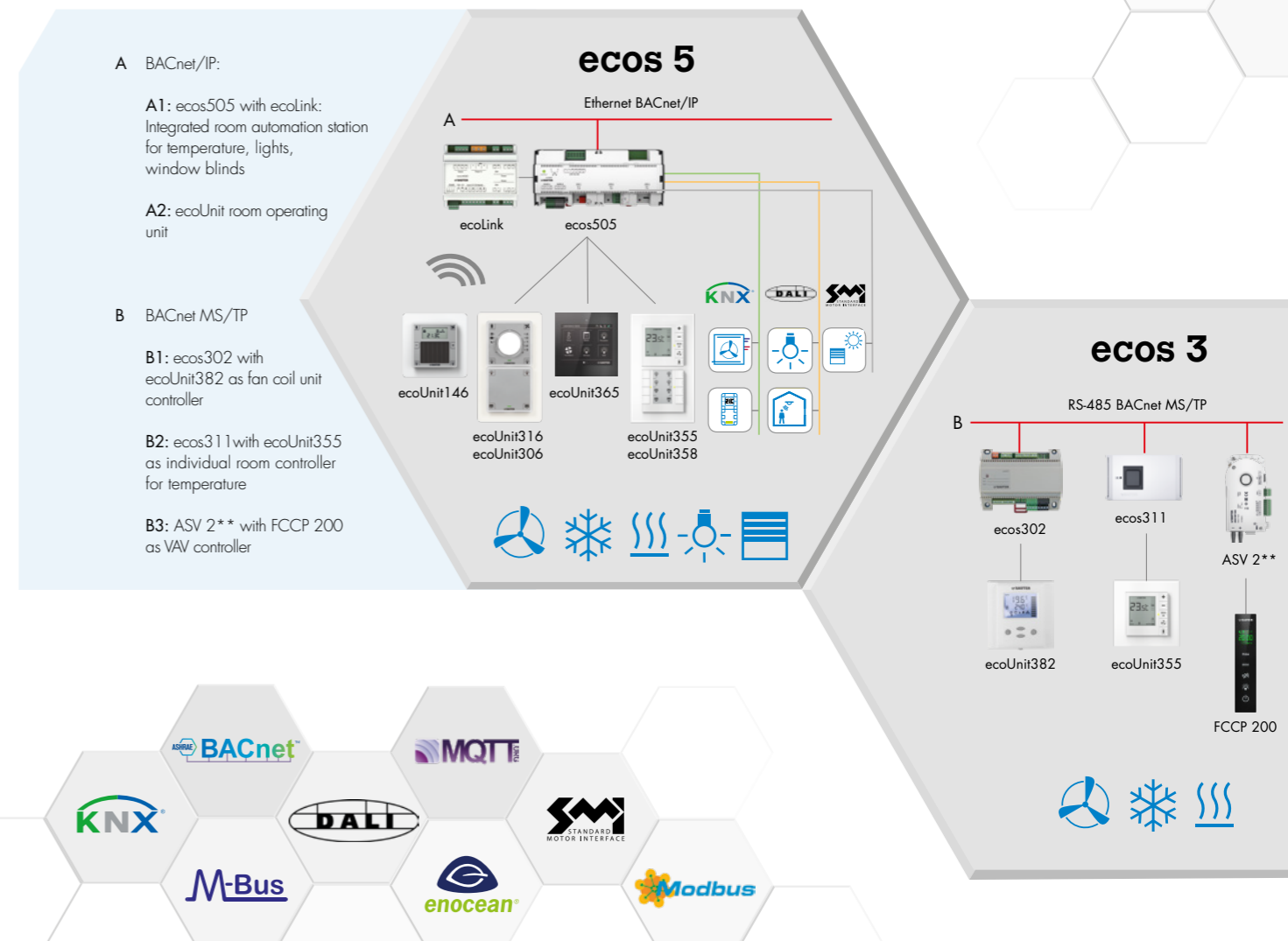
Room automation with SAUTER ecos 5 – ideal for new buildings, refurbishment and retrofitting.

Continuous cutting-edge technology – increasing efficiency without making losses at the interface

SAUTER provides a comprehensive range of solutions, from the building management system through automation of the primary system to room automation. The components come together seamlessly in a complete system with open interfaces based on the standard protocol BACnet. Be it in individual or open-plan offices, hotel rooms, hospitals or labs – SAUTER ecos 5 room automation solutions combine complex room functions such as exact temperature, lighting and shading control into one balanced solution for all.

SAUTER creates perfect conditions in any room.

Be it an office building, a hospital, museum, laboratory or school, SAUTER offers individual room automation solutions tailored to best suit the room requirements of every customer and every building project. The end results are holistic, made-to-measure solutions founded on many years of experience in building automation. Seasoned experts will guide you right from the beginning, as you plan the building.



Looking to cut costs but stay comfortable? Then leave it to SAUTER room automation.



Easy for you. Easy on the environment.

With room automation systems from SAUTER, you can control heating/cooling, lighting, shade and ventilation – very easily and across all systems. You can adjust the controls individually to best suit the daily routine and the actual occupancy in your building at any given time. This way, you can reduce energy consumption, costs generated and CO₂ emissions without compromising maximum comfort and well-being.

It is a proven fact that a pleasant room climate in an office increases employee productivity. Maintaining a pleasant thermal room climate by controlling room temperature and air humidity is usually a priority. Room air quality is another important parameter, which can be maintained using a CO₂ sensor and demand-controlled ventilation. Appropriate light conditions are also a must for a comfortable and productive room climate.

Automatic sunshading functions create comfort.

Automatic sunshading is a must-have, especially for modern buildings with large glass surfaces. Simply shutting the sunshades during bright sunshine may stop the building from overheating, but it also results in darkened workspaces with artificial lighting.

A comfortable workspace is one where the room user does not have problems with glare, yet still profits from daylight and has the world outside in view. Sunshade equipment controlled according to the position of the sun is exactly what you need to realise these goals. Not only does this method create a comfortable environment, but it also increases energy efficiency.

Light is life.

Adequate lighting perfectly suited for the characteristics and usage of the room is essential. Automated lighting control ensures adequate lighting while consuming as little energy as possible – and conveys safety.

Make room for personal preferences.

Room users always have the option to override the automatic functions using the room operating unit and to adjust the room climate, lighting or sunshades according to their personal preferences. As this function constitutes a real comfort gain for many users, particularly in an office setting, it increases satisfaction with and acceptance of the automation solution.

Integrate overall solutions.

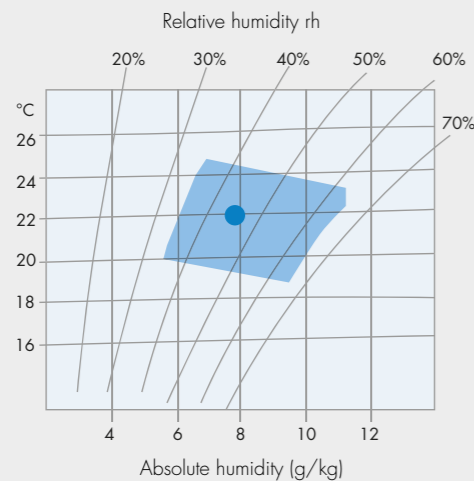
By bringing together all functions available for the room, an overall solution is created, which helps to achieve the greatest possible increase in comfort and energy efficiency. Room automation from SAUTER is based on standardised libraries of solutions. These, in turn, are the basis for a consistent quality standard.

Standardised yet still individual.

Hotel rooms demand different room automation solutions than open-plan offices, classrooms or hospital rooms.

SAUTER tailors perfectly fitting solutions by adapting to different customers' individual needs and to the infrastructure of the different buildings.

h-x diagram including depiction of the comfort zone and operating point



A person's productivity and job satisfaction can be increased by up to 15% if the working space offers ideal conditions (lighting, temperature and air quality). This was proven in scientific studies, e.g. by BOSTI (Buffalo Organization for Social and Technological Innovation), as early as the 1960s.

Example of use

<p>Wireless components</p> <ul style="list-style-type: none"> 1 Operating unit 2 Window contacts 3 4-channel light switch 4 Motion detector 5 Operating unit with 6-fold light switch 	<p>Wired components</p> <ul style="list-style-type: none"> 6 Actuator 7 Venetian blind motor 8 Electronic ballast (EVG) 9 Wireless interface EnOcean 10 Room automation station (for up to 8 rooms)
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Room operating units from SAUTER – as **versatile** as your space.



Naturally, the look of the room operating elements can be adapted to the architectural design, both for wired and wireless solutions.

By choosing SAUTER's room operating units, you have chosen the perfect combination of technology and design. You can assign two, four or more buttons and always keep an eye on the room temperature, setpoints and the time.

The devices can be labelled, equipped or configured with text and symbols as you wish and can be fitted and used without restrictions. They are fitted using a frame. With the standard inner dimensions 55 x 55 mm, you are free to select a frame from the SAUTER product range or from the light switch range of any other manufacturers. So the room operating units can easily be adapted to fit the surrounding architecture and even unusual design wishes can be fulfilled.

Functions

Depending on the type, the room operating units provide the following functions:

- Temperature measurement
- Room setpoint correction
- Operating mode adjustment
- Activation of a fan
- Activation of groups of lights which can be dimmed
- Window blind control
- Display functions: Presence mode, fan speed, date/time, different actual values
- Touch operation with configurable functions on different tiles
- App operation via Bluetooth or Mobile Building Services (SAUTER Cloud)

SAUTER room operating units adapt to your operating style.

Room operating units with switch design for a wide range of frame types:

- Classic wiring
- Wireless and without battery using EnOcean wireless technology

Room operating unit with high-quality touch display

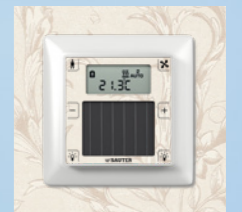
- modern
- with Bluetooth app
- flexibly configurable
- for special design requirements

Touch panels, tablets for conference rooms, auditoriums or luxury apartments supported by SAUTER Mobile Building Services, BACnet or KNX.

Wireless room operating units

With the wireless room operating units from SAUTER, you can control all sorts of different functions intuitively, using a single operating unit – no fuss. The operating units are supplied with voltage by mini solar cells, so you do not need batteries.

As it's wireless, the technology is easy to fit and inexpensive. The operating units can be affixed using adhesive or screwed, making them suitable for use in glass or concrete structures and historical buildings. And their design can be specifically adapted to blend in with your architecture.



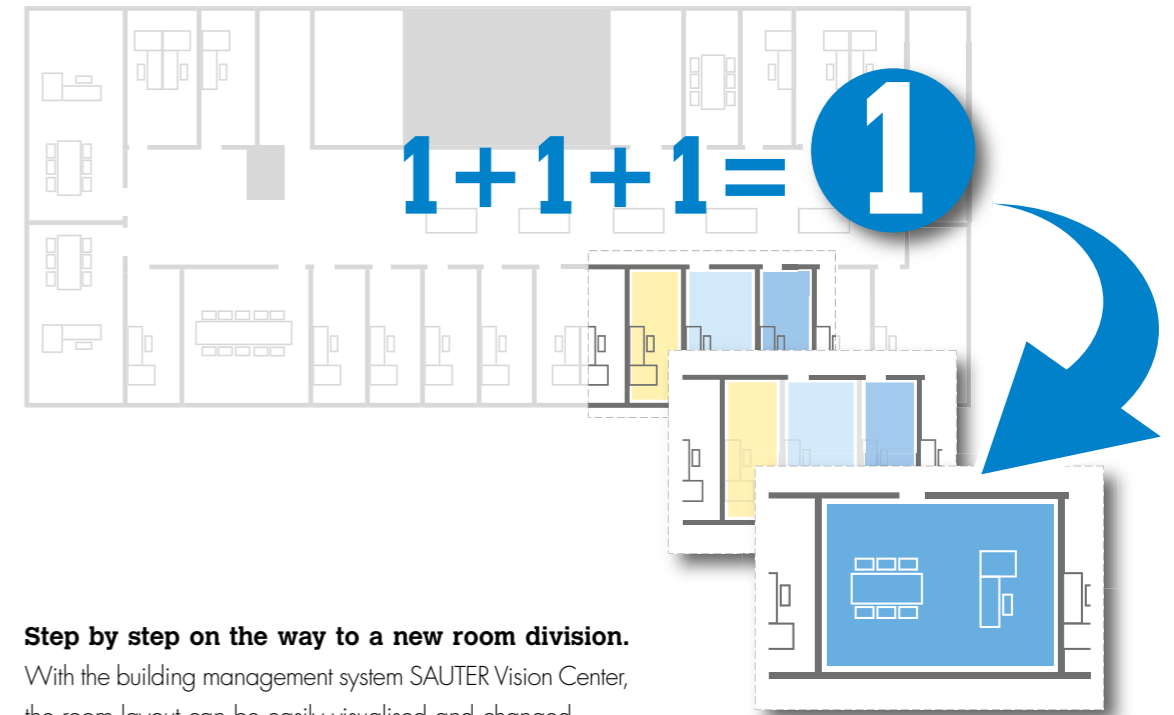
Flexibility

It's that easy to **adjust quickly** to new room requirements.

Flexibility is easy with intelligent room management.

For buildings with flexible room utilisation, office buildings or shopping centres, for example, it is very important to be able to quickly adapt to new room conditions. While in the case of room-oriented concepts, where the rooms remain unchanged and the devices are fitted and installed permanently, the flexible concept is based on a division into room segments, independently of what the space will be used for in future.

This concept has the advantage that, at minimum expense, you can quickly and easily adjust the technical room functions to suit the new room division. Adjustments can be made during normal operation and the system won't be interrupted. The SAUTER modulo and ecos automation systems includes function modules and room and field devices which flexibly adapt to room changes and the specific climate, lighting and sunshading challenges involved. This way, flexible room management is a given.



Step by step on the way to a new room division.

With the building management system SAUTER Vision Center, the room layout can be easily visualised and changed.

1. Select the room segments to be incorporated.
2. The application detects the devices already in place and automatically allocates them to the new room.
3. The new configuration is activated, but the room automation station is not interrupted.

Complicated rewiring is obsolete.

Why should you choose SAUTER's flexible room management?

- Tailored specifically to your project
- Can be reconfigured during ongoing operation
- High functional density in a small space – up to 8 rooms/segments to one room controller
- Specific customer requests quickly implemented using simple programming tools
- Planning security for your project guaranteed
- Knowledge from many years of experience in development and engineering pooled in the SAUTER CASE libraries



Let room automation increase your energy efficiency.



The European standard EN 15232.

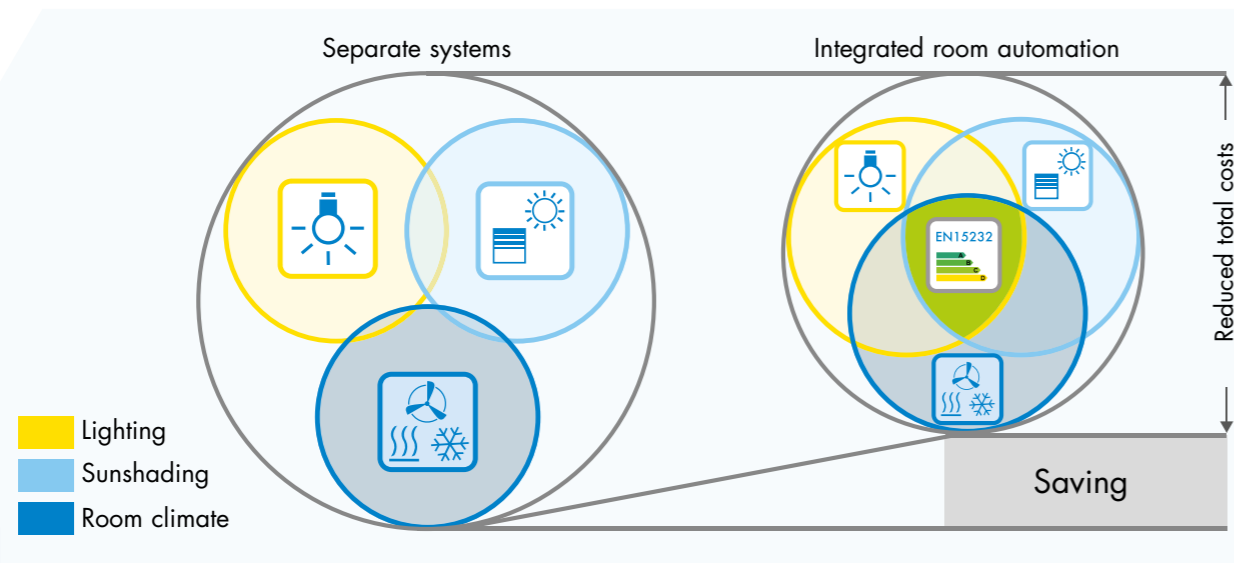
For years now, the European Standard EN 15232 has been the gold standard in the field of building automation (BA). It aims to improve the energy efficiency of buildings. The standard categorises buildings in classes from A to D according to level of automation and with specific functions required for building automation. Class C has been defined as the benchmark. All of the classes have assigned BA efficiency factors. These are determined by overall energy consumption and they identify the energy-saving potential that can be achieved through building automation. With Class C as a starting point, about 50 measures to increase energy efficiency are described, on the basis of which efficiency classes B and A can be attained. Advancing to a higher efficiency class is only possible if a room automation system is integrated in the building automation.

Up to 70% energy savings thanks to demand-oriented control.

Rising energy prices are making energy-efficient buildings more and more attractive. Modern room automation solutions bear considerable savings potential without you having to make any sacrifices in terms of comfort. Consumption can be reduced by between 30 and 70% with technology which only consumes energy on demand rather than all the time. Room automation solutions which automatically control heating/cooling, lighting, sunshading and ventilation are needed to realise this. The SAUTER control libraries implement these room automation functions in accordance with VDI 3813/3814.

An overview of the measures.

- Integration of all systems
- System only operated when necessary
- Special attention to cooling process
- Building automation and technical building management
- Minimisation of the "electrical energy requirement"
- Avoidance of inefficient operation methods



Bringing your project to life with SAUTER modulo and ecos.

SAUTER takes responsibility and creates exemplary solutions. What does that mean for you? Having decided to use SAUTER modulo means that you are perfectly equipped to fulfil legal requirements, standards and directives – including EN 15232. With intelligent technologies that are used effectively and precisely to avoid unnecessary costs and ensure that resources are used wisely.

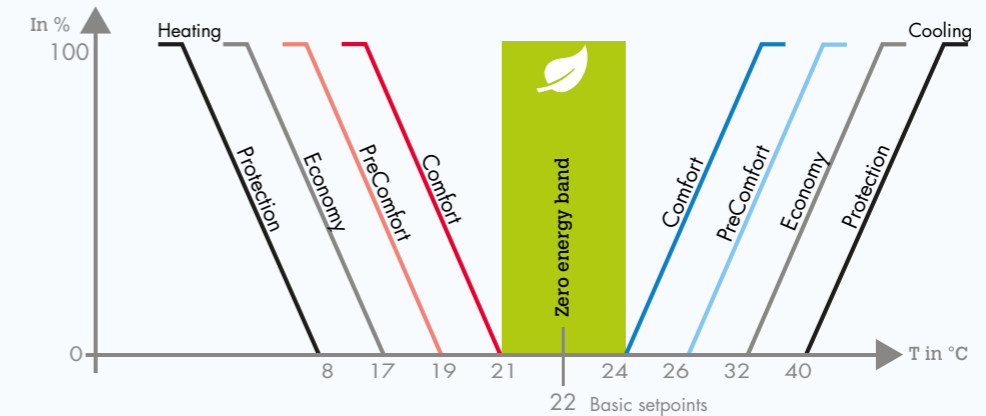
Sensors and actuators

Temperature, brightness, presence and CO₂ sensors detect important room conditions and with this information, the room automation station can precisely control actuators such as heating and cooling valves, lamps, blinds and ventilation dampers.

Energy level

Rooms are automatically run in Economy mode at times outside the planned occupancy period. During the occupancy periods, the rooms are kept in Precomfort mode and the levels are only changed to the Comfort range when the presence detector has detected that a person is in the room. With integrated room automation, heating, cooling, ventilation, lighting and sunshading are set in accordance with the energy level that is currently activated. This is helpful to significantly reduce energy consumption levels without making the room any less comfortable. Heating and cooling setpoints are defined for each energy level. The so-called zero energy band is the range between the setpoint for heating and the setpoint for cooling. Within this range, both heating and cooling are unnecessary, making it the most energy-efficient range.

Graph showing setpoints for various energy levels (source: VDI 3813)

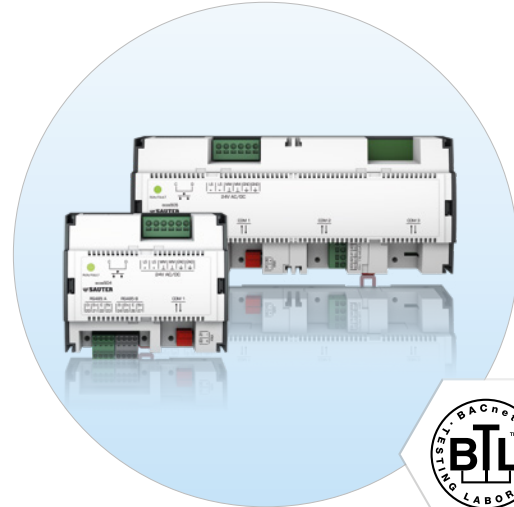


Optimum integration of all systems and complete flexibility – modular SAUTER system components.

ecos504, ecos505 modular room automation station

The powerful BACnet/IP building controller (B-BC) from the SAUTER modulo 5 system family offers the following functions:

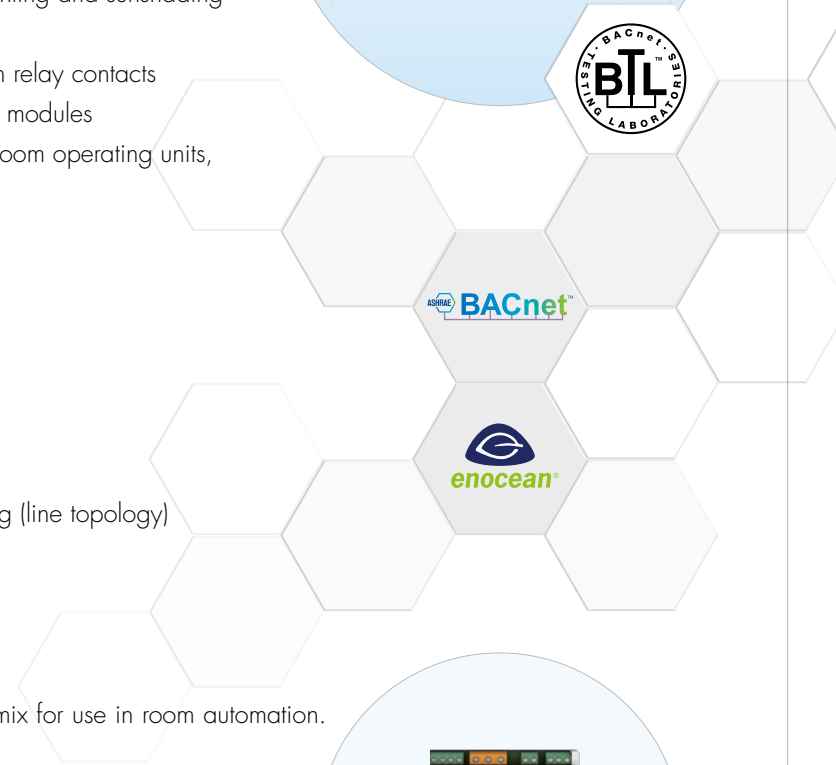
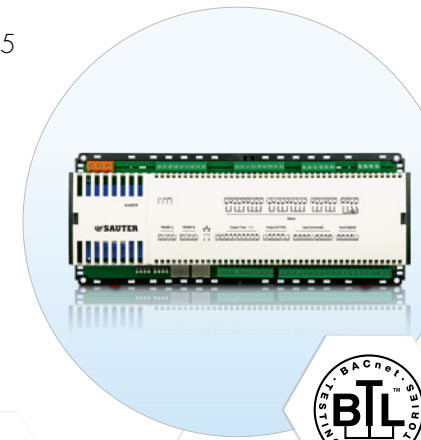
- BACnet/IP communication protocol (EN ISO 16484-5)
- BTL certified
- Easy integration into the building automation network
- 1-8 flexible room segments or fixed rooms
- Freely programmable
- Function libraries for room climate, lighting and sunshading
- Scalable I/O mix using ecoLink remote I/O modules
- RS-485/SIC bus interface for efficient integration of room operating units, ecoLink modules or EnOcean wireless interfaces
- Optional with MQTT for integration into the cloud (IoT)
- ecos504 with 1 optional COM module
- ecos505 with up to 3 integrated COM modules
- Optional COM modules for:
 - KNX/TP
 - DALI with integrated bus power supply
 - SMI for blind control
 - RS-485 for Modbus RTU/ASCII
 - M-Bus/RS-232 for counters
- Extensive BACnet objects:
 - 600 data points
 - 32 controllers (loop)
 - 32 schedules, 16 calendars
 - 32 notification classes
 - 1500 active COV subscriptions
 - 256 Trend Log objects with up to 60,000 entries
- Ethernet 2-port switch for daisy chain wiring
- 24 V AC/DC power supply
- Compact construction due to DIN rail housing with DIN rail mounting



ecos500 compact room automation station

The powerful BACnet/IP building controller (B-BC) from the SAUTER modulo 5 system family offers the following functions:

- BACnet/IP communication protocol (EN ISO 16484-5)
- BTL and AMEV-B certified
- Easy integration into the building automation network
- 1-4 flexible room segments or fixed rooms
- Freely programmable
- Comprehensive function libraries for room climate, lighting and sunshading
- Inputs: 8 UI (universal), 4 DI (digital)
- Outputs: 4 AO (analogue), 8 Triac, 16 normally-open relay contacts
- I/O mix can be expanded using ecoLink remote I/O modules
- RS-485/SIC bus interface for efficient integration of room operating units, ecoLink modules or EnOcean wireless interfaces
- Extensive BACnet objects:
 - 256 data points
 - 32 controllers (loop)
 - 32 schedules, 8 calendars
 - 16 notification classes
 - 500 active COV subscriptions
 - 16 Trend Log objects with up to 2000 entries
- Integrated Ethernet 2-port switch for daisy chain wiring (line topology)
- Power supply: 230 V AC
- DIN rail mounting



ecoLink remote I/O modules

The different ecoLink modules are a coordinated I/O mix for use in room automation.

- Less wiring thanks to remote installation

Power supply 230 V AC:

ecoLink520/521/526

- Applications: switching/dimming lights, window blinds
- Inputs: 4 AI
- Outputs: 4 DIM-10V, 4 normally-open relay contacts/changeover contacts

ecoLink522/523

- Complete I/O mix for 1 room segment with lamps, blinds, heated/chilled ceiling
- Inputs: 4 UI
- Outputs: 4 AO, 4 DIM-10V, 4 normally-open relay contacts

ecoLink527

- Applications: control of ventilation damper
- Inputs: 4 UI, 4 DI/CI (10 Hz)
- Outputs: 4 normally-open relay contacts

Power supply 24 V:

ecoLink510/511/512

- Applications: fan coil units, heated/chilled ceilings
- Inputs: 4 AI, 2 Ni/P1000
- Outputs: 3 AO, 3 Triac, 3 normally-open relay contacts

ecoLink514/515

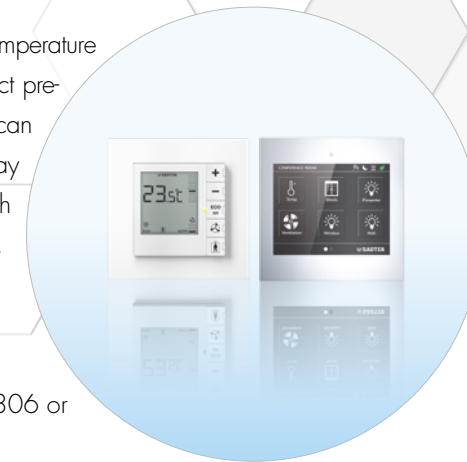
- Universal I/O mix
- Applications: fan coil units, heated/chilled ceilings
- Inputs: 4 UI
- Outputs: 4 AO, 4 normally-open relay contacts, 6 MOS-FETs



ecoUnit 3 room operating units

Operating units from SAUTER's ecoUnit 3 series detect the room temperature and have buttons or touch controls for setpoint correction, to select presence mode and the fan speed and more buttons, for which you can freely assign a setting as required. Device variants with LCD display and digital setpoint adjustment, with rotary knob or with touch display and operation – including Bluetooth app – are available. Most important features:

- Integrated room temperature sensor
- LCD display with temperature display and status information
- Expandable with additional button functions through ecoUnit306 or ecoUnit358 switching units
- Power supply via BUS interface or via power supply module of automation station
- Surface or recessed mounting
- Can be fitted in switch ranges from various other electronics manufacturers



ecosCom581 wireless interface

The ecosCom581 wireless interface is used to integrate EnOcean standard-compliant wireless devices into the SAUTER modulo and ecos system families.

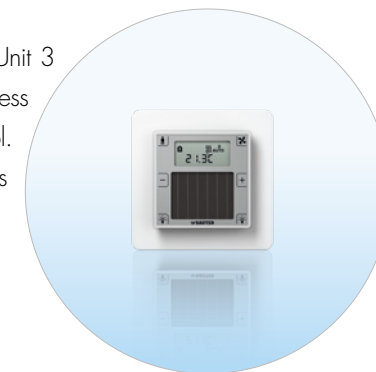
- Integration of SAUTER ecoUnit 1
- Integration of EnOcean sensors and switches from third-party manufacturers
- Power supply via BUS interface of automation station
- Surface or recessed mounting



ecoUnit 1 room operating units

The ecoUnit 1 wireless room operating units unite the qualities of ecoUnit 3 with the advantages of wireless communication. The devices are cordless and communicate bi-directionally via the EnOcean wireless protocol. Power is supplied through an integrated solar cell, making batteries unnecessary.

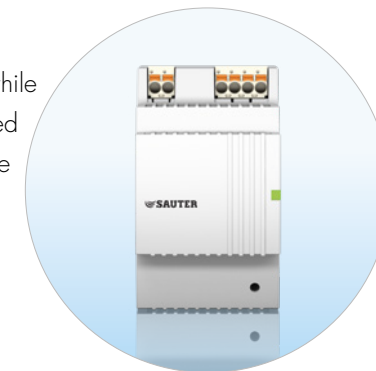
- Compatible with ecosCom581 EnOcean interface or third-party manufacturers
- Expandable with 6 additional button functions through ecoUnit106 switching unit



EY-PS 021 power supply modules

The energy-efficient switching power supplies are very effective while generating little heat. The compact construction as a rail-mounted device with DIN rail mounting is an excellent addition to the modulo and ecos system families.

- Input: 100–240 VAC / output: 24 V DC
- Sizes: 1.3 A, 3 HP / 2.5 A, 4 HP / 4 A, 5 HP



SAUTER is the **room automation** expert.

Benefit from 40 years of expertise based on experience in building automation.

We have been creating pleasant conditions in living spaces the world over for more than 100 years. We have made it our mission to reduce your costs and your CO₂ emissions. Both you and the environment benefit from this. With the right room automation functions for your building, you can take the important steps in the direction of energy efficiency. Start now.

All the advantages at a glance

+ Energy savings	+ Demand-led energy preparation without interfaces
+ Homogeneous solution: Standard user address key and documentation	+ Integration of additional systems with BACnet technology and open fieldbus protocols
+ Enhanced comfort	+ Equipment can be individually selected and upgraded
+ Lasting reduction in running costs	+ The property's attractiveness is enhanced
+ Time savings	+ Planning certainty
+ Optimum working conditions	+ Suitable for all systems
+ Complete flexibility when there is a change of use	+ Expertise over the entire life-cycle of the building
+ Investments are protected	+ Simple installation

A complete solution: from the basement to the attic, from the reception to the conference room.

A complete product range and comprehensive services from SAUTER.

SAUTER is the single source you need – providing an overall solution for regulating and controlling your building. Be it powerful automation stations for primary energy preparation, room management stations, valves, actuators, operating units, sensors or cross-system functions like access control, etc. All the information comes together in the SAUTER Vision Center building management system, where you can see everything you need at a glance. And the SAUTER EMS energy management system identifies areas with further savings potential during ongoing operation. SAUTER leaves nothing to be desired.

