

# SAUTER modulo 5

## Produkt och System Information





# SAUTER modulo 5

The SAUTER EY-modulo 5 automation technology fulfils the most complex requirements in a convenient, efficient building management system. With intelligent functions and modules that are completely forwards- and backwards-compatible – even with third-party systems – SAUTER meets all the challenges in open, modular, cross-platform building automation. The pioneering technology is based throughout on the open BACnet/IP communication protocol.

# SAUTER ecos 5

**Integrated room automation:  
high-performance, modular, communicative and ready for IoT.**

SAUTER ecos 5 guarantees both seamless integration in the building management system and in the automation system of the primary plants, while also providing maximum flexibility with the minimum use of energy.





## SAUTER modulo 5

### HVAC automation

EY-AS 524, 525: Modular automation station, modu524/525	6	EY-FM 164: Field module, moduLink164	31
Overview of I/O modules	9	EY-FM 165: Field module, moduLink165	33
EY-IO 530: I/O module, modu530	10	EY-FM 170: Field module, moduLink170	35
EY-IO 531: I/O module, modu531	12	EY-FM 174: Field module, moduLink174	37
EY-IO 532: I/O module, modu532	13	Overview of operating units	38
EY-IO 533: I/O module, modu533	14	EY-OP 840: Local operating unit, modu840	39
EY-IO 534: I/O module, modu534	16	EY-LO 625...670: Operating units, modu625...670	41
EY-IO 550: I/O module, modu550	18	EY-WS 500: Web server, moduWeb500	43
EY-IO 551: I/O module, modu551	20	Overview of communication modules	45
EY-IO 570: I/O module, modu570	22	EY-CM 721: Communication module, modu721	46
EY-IO 571: I/O module, modu571	24	EY-CM 731: Communication module, modu731	48
EY-IO 572: I/O module, modu572	26	EY-BU 292: novaNet-Ethernet interface, moduNet292	50
EY-LM 590: novaLink module, modu590	29	EYZ 291: Router, novaNet291	52

### Room automation

Overview of room automation stations	53
EY-RC 500: Room automation station, ecos500	54
EY-RC 504/505: Room automation station, ecos504/505	56
Overview of room operating units	61
EY-RU 310...316: Room operating unit, ecoUnit310...316	63
EY-RU 365: Touch room operating unit, ecoUnit365	65
EY-RU 355: Room operating unit, ecoUnit355	68
EY-SU 106: Push-button unit, ecoUnit106	71
EY-SU 358: Push-button unit for room operating unit, ecoUnit358	72
EY-RU 110...146: Room operating unit, ecoUnit110...146	74
EY-EM 580: Wireless interface, ecoMod580	76
Frame for device inserts	78
EY-PS 021: Power supply unit	81
EY-EM 510...512: Remote I/O module, ecoLink510...512	84
EY-EM 514, 515: Remote I/O module, ecoLink514, 515	86
EY-EM 520, 521, 526: Remote I/O module, ecoLink520, 521, 526	88
EY-EM 527: Remote I/O module, ecoLink527	90
EY-EM 522, 523: Remote I/O module, ecoLink522, 523	92





# SAUTER modulo 5 automation stations

SAUTER modulo 5 automation stations regulate, control, monitor and improve energy efficiency in HVAC installations. The installation network is based on BACnet/IP - the communication protocol for networked building intelligence.

## Overview of automation stations



Type designation	EY-AS525F001	ES-AS525F005
Product name	modu525	modu525
Power supply	230 V~	24 V~/=
<b>Inputs/outputs</b>		
Universal inputs	8	8
Digital inputs	8	8
Analogue outputs	4	4
Digital outputs	6	6
<b>Further information</b>	Page 6	Page 6

## EY-AS 524, 525: Modular automation station, modu524/525

### Features

- Part of the SAUTER EY-modulo 5 system family
- Modular automation station (AS)
- Regulation, control, monitoring and optimisation of operational systems, e.g. in HVAC engineering
- 26 inputs/outputs
- Expandable with up to 3 modules (modu524) or 8 modules (modu525)
- BACnet/IP communication (EN ISO 16484-5)
- BACnet profile B-BC
- AMEV profile AS-B (modu525 only)
- Integrated web server
- Programming/parameterisation via PC using CASE Suite (based on IEC 61131-3)
- Control libraries
- Time and calendar function
- Predictive control based on meteorological forecast data
- Data recording
- Can be equipped with local operating and indicating units, located up to 10 m away
- Alive signal output pulsed



EY-AS525F00\*

EY-AS524F001



### Technical data

#### Power supply

Power supply	See list of types
Power consumption	See list of types
Dissipated power	≤ 5 W (without accessories)
Peak inrush current	See list of types

#### Parameters

Battery (buffer: RTC/SRAM)	CR2032, insertable
----------------------------	--------------------

#### Inputs/outputs

Digital inputs	8 (alarm/status)
Digital outputs	6 (relays, 24...250 V~, 2 A)
Universal inputs	8 (Ni1000/Pt1000, U/I/R, DI)
Analogue outputs	4 (0...10 V)
Watchdog output pulsed	1 (5 Hz)

#### Function

BACnet data point objects	512 (incl. HW)
BACnet client links	200 (Peer-to-Peer)
Control	32 (Loop)
Active COV subscription	1500
Structured view	128 (Structured View)
BBMD in BDT	32
FD in FDT	32

#### Dynamic objects

Time programmes	64 (Schedule)
Calendar	16 (Calendar)
Historical data	100 (Trend Log) up to 30000 entries
Alarms	16 (Notification Class)
Chart	32 (Log View), only via moduWeb
Command object	16

#### Architecture

Processor	32-bit, 400 MHz
Flash	16 MB



Embedded web server	moduWeb
Application data	Via CASE Engine
SDRAM (synchronous dynamic RAM)	32 MB
SRAM (static RAM)	1 MB

#### Interfaces and communication

Ethernet network	1 × RJ-45 connector
10/100 BASE-T(X)	10/100 Mbit/s
Communication protocols	BACnet/IP (DIX)
Connection, I/O and COM modules	1 × integrated I/O bus plug for up to 3 or 8 modules (max. load 1100 mA)
Operating and indicating units	Local operating unit, modu840 (LOP)
	1 × integrated interface
	Connection LOI
	1 × integrated interface

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Construction

Fitting	On DIN rail
Dimensions W x H x D	160 × 170 × 115 mm
Weight	0.8 kg

#### Standards and directives

Type of protection <sup>1)</sup>	IP20 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)
Software class	A (EN 60730-1 Appendix H)
Energy class <sup>2)</sup>	I to VIII = up to 5% as per EU 811/2013, 2010/30/EU, 2009/125/EC
BACnet profile	B-BC (ISO 16484-5)
AMEV profile	modu525: certified to AS-B modu524: functions like AS-B, but without certification
CE conformity according to	EMC Directive 2014/30/EU
	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-Voltage Directive 2014/35/EU
	EN 60730-1, EN 60730-2-9 EN 60950-1

#### Overview of types

Type	Power supply	Power consumption	Peak inrush current	Maximum number of modules	Maximum number of modules
EY-AS524F001	230 V~, ±10%, 50...60 Hz	≤ 13 VA/5 W (without accessories)	At 230 V~: 8 A (5 ms)	3	Max. 3 modules, of which max. 2 are I/O modules max. 2 are modu- Com modules
EY-AS525F001	230 V~, ±10%, 50...60 Hz	≤ 13 VA/5 W (without accessories)	At 230 V~: 8 A (5 ms)	8	Max. 8 modules, of which max. 2 are modu- Com modules
EY-AS525F005	24 V=, ±10%, 24 V~, ±20%, 50...60 Hz	≤ 11 VA/4 W (without accessories)	At 24 V=: 35 A (5 ms) At 24 V~: 39 A (5 ms)	8	Max. 8 modules, of which max. 2 are modu- Com modules

<sup>1)</sup> Only on front with terminal cover, blanking piece for LOI and transparent cover

<sup>2)</sup> When the automation station is being used as a temperature controller, most temperature controller classes can be fulfilled according to EU Directive 2010/30/EU, Regulation 811/2013. For information on the exact temperature class, please refer to the system integrator's user program.



## Accessories

### Plug-in I/O modules

Type	Description
EY-IO530F001	Digital and universal inputs (8 DI/8 UI)
EY-IO531F001	Digital inputs (16 DI)
EY-IO532F001	Universal inputs (16 UI)
EY-IO533F001	Universal and digital inputs (8 UI/4 DI/4 SO)
EY-IO534F001	Analogue inputs with galvanic isolation (8 AI current/voltage)
EY-IO550F001	Digital outputs (6 DO, relay)
EY-IO551F001	Digital outputs (16 DO, open collector)
EY-IO570F001	Analogue outputs and universal inputs (4 AO/8 UI)
EY-IO571F001	Digital inputs/outputs (16 DI/DO, open collector)
EY-IO572F001	Analogue outputs, universal and digital inputs (4 AO/8 UI/3 DI)
EY-LM590F001	novalink module (8 channels)

### Plug-in communication modules (COM)

Type	Description
EY-CM721F010	Integration of non-SAUTER systems via EIA-232 and EIA-485 for Modbus/RTU master
EY-CM721F020	Integration of non-SAUTER systems via EIA-232 and EIA-485 for M-Bus
EY-CM731F020	M-Bus and EIA-232 integration of non-SAUTER systems for M-Bus

### Local operation and indication

Type	Description
EY-LO625F001	Operation/indication, 6 switches Auto-O-I, 4 LEDs alarm/status, 4 setpoint transmitters (A-O... 100%), 8 LEDs alarm/status
EY-LO630F001	16-LED indication, bi-colour
EY-LO650F001	6 switches, Auto-O-I, 4 LEDs operation/indication
EY-LO650F002	3 switches, Auto-O-II, 4 LEDs operation/indication
EY-LO670F001	4 setpoint transmitters (A-O... 100%), 8 LEDs operation/indication
EY-OP840F001	Local operating and display unit, modu840
0930240511	Front frame for 4 operating/indicating units
0930240540	Connection adaptor for RJ-45 operating/indicating units for front frame
0930240541	Connection adaptor for RJ-45 operating panel for front frame

### Replacement relay

Type	Description
0929360005	PCB relays (2 × pluggable electronic PCB with 3 relays, including connection terminals)

### Manuals

Type	Description
7010050001	Operating manual for moduWeb, German
7010050002	Operating manual for moduWeb, French
7010050003	Operating manual for moduWeb, English

# SAUTER modulo 5 I/O modules

SAUTER I/O modules are compatible with the modulo 5 series and are used to capture digital and analogue signals in HVAC installations. They control devices such as contactors, relays and valve actuators.

## Overview of I/O modules



Type designation	EY-IO530F001	EY-IO531F001	EY-IO532F001	EY-IO533F001	EY-IO534F001
Product name	modu530	modu531	modu532	modu533	modu534
Power supply	From modu525 AS	From modu525 AS	From modu525 AS	From modu525 AS	From modu525 AS
<b>Inputs/outputs</b>					
Digital inputs	8	16	–	8 (4 × S0)	–
Universal inputs	8	–	16	8	–
Analogue inputs (with power applied)	–	–	–	–	8
Optional operating elements	modu630	modu630	modu630	modu630	modu630
Digital outputs	–	–	–	–	–
Analogue outputs	–	–	–	–	–
Digital inputs/outputs	–	–	–	–	–
Further information	Page 10	Page 12	Page 13	Page 14	Page 16



Type designation	EY-IO550F001	EY-IO551F001	EY-IO570F001	EY-IO571F001	EY-IO572F001
Product name	modu550	modu551	modu570	modu571	modu572
Power supply	From modu525 AS	From modu525 AS	From modu525 AS	From modu525 AS	From modu525 AS
<b>Inputs/outputs</b>					
Digital inputs	–	–	–	–	3
Universal inputs	–	–	8	–	8
Optional operating elements	modu630, modu650	modu630, modu650	modu630, modu670	modu630, modu650	modu630, modu670
Digital outputs	6	16	–	–	–
Analogue outputs	–	–	4	–	4
Digital inputs/outputs	–	–	–	16	–
Further information	Page 18	Page 20	Page 22	Page 24	Page 26

## EY-IO 530: I/O module, digital and universal inputs, modu530

### Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu524/525 automation station (AS)
- Receiving digital (alarm/status) and analogue inputs (Ni/Pt1000, U/I/R) in operational systems, e.g. in HVAC engineering
- 16 inputs
- Power supply of automation station (AS)
- Direct labelling on the front
- Can be equipped with a local indicating unit



EY-IO530F001

### Technical data

#### Power supply

Power supply	From AS via I/O bus
Power consumption <sup>1)</sup>	≤ 1.6 VA/0.65 W
Dissipated power	≤ 0.65 W
Current consumption <sup>2)</sup>	40 mA

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/outputs

Digital inputs	8 fixed assignment (alarm/status)
Pulse counter	≤ 50 Hz
Universal inputs	8
Analogue	Ni1000/Pt1000, U/I/R, Pot
Digital	DI (approx. 3 Hz)

#### Construction

Fitting	On DIN rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.29 kg

#### Interfaces and communication

Connection LOI	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm <sup>2</sup> )

#### Standards and directives

Type of protection	IP30 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity according to	EMC Directive 2014/30/EU
	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	Features
EY-IO530F001	I/O module, digital and universal inputs, modu530

<sup>1)</sup> Primary side of base station

<sup>2)</sup> Supply via base station





### Accessories

#### Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour

## EY-IO 531: I/O module, digital inputs, modu531

### Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu524/525 automation station (AS)
- Receiving digital inputs (alarm/status) in operational systems, e.g. in HVAC engineering
- 16 digital inputs
- Power supply of automation stations
- Direct labelling on the front
- Can be equipped with a local indicating unit



EYIO531F001

### Technical data

#### Power supply

Power supply	From AS via I/O bus
Power consumption <sup>1)</sup>	≤ 1 VA/0.4 W
Dissipated power	≤ 0.4 W
Current consumption <sup>2)</sup>	25 mA

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...85% rh, no condensation

#### Inputs/outputs

Digital inputs	16
Pulse counter	≤ 50 Hz

#### Interfaces and communication

Connection LOI	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm <sup>2</sup> )

#### Construction

Fitting	On DIN rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.29 kg

#### Standards and directives

	Type of protection	IP30 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
CE conformity according to	EMC Directive 2014/30/EU	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	Features
EY-IO531F001	I/O module, digital inputs, modu531

### Accessories

#### Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour

<sup>1)</sup> Primary side of base station

<sup>2)</sup> Supply via base station





EYIO532F001

## EY-IO 532: I/O module, universal inputs, modu532

### Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu524/525 automation station (AS)
- Receiving digital (alarm/status) and analogue inputs (Ni/Pt1000, U/I/R) in operational systems, e.g. in HVAC engineering
- 16 universal inputs
- Power supply of the automation station
- Direct labelling on the front
- Can be equipped with a local indicating unit

### Technical data

Power supply		
Power supply		From AS via I/O bus
Power consumption <sup>1)</sup>		≤ 1.2 VA/0.5 W
Dissipated power		≤ 0.5 W
Current consumption <sup>2)</sup>		35 mA
Ambient conditions		
Operating temperature		0...45 °C
Storage and transport temperature		-25...70 °C
Admissible ambient humidity		10...85% rh, no condensation
Inputs/outputs		
Universal inputs		16
Analogue		Ni1000/Pt1000, U/I/R, Pot
Digital		DI (≤ 3 Hz)
Interfaces and communication		
Connection LOI		6-pin, integrated
Connection, I/O bus		12-pin, integrated
Connection terminals		24 (0.5...2.5 mm <sup>2</sup> )
Construction		
Fitting		On DIN rail
Dimensions W x H x D		42 × 170 × 115 mm
Weight		0.29 kg
Standards and directives		
Type of protection		IP30 (EN 60529)
Protection class		I (EN 60730-1)
Environment class		3K3 (IEC 60721)
CE conformity according to	EMC Directive 2014/30/EU	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	Features
EY-IO532F001	I/O module, universal inputs, modu532

### Accessories

#### Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour

<sup>1)</sup> Primary side of base station

<sup>2)</sup> Supply via base station





## EY-IO 533: I/O module, universal, digital, S0 inputs, modu533

### Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu524/525 automation station (AS)
- Receiving digital (alarm/status), analogue inputs (Ni/Pt1000, U/I/R) and meter signal S0 in operational systems, e.g. in HVAC engineering
- 16 inputs
- Power supply of the automation station
- Direct labelling on the front
- Can be equipped with a local indicating unit



EY-IO533F001

### Technical data

#### Power supply

Power supply	From AS via I/O bus
Power consumption <sup>1)</sup>	≤ 2.9 VA/1.5 W
Dissipated power	≤ 1.5 W
Current consumption <sup>2)</sup>	100 mA

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/outputs

Universal inputs	8
Analogue	Ni1000/Pt1000, U/I(2x)/R, Pot
Digital	DI (≤ 3 Hz)
Digital inputs	8 (≤ 50 Hz)
Fixed assignment	4
Meter inputs S0	4 (as per IEC 62053-31)

#### Interfaces and communication

Connection LOI	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm <sup>2</sup> )

#### Construction

Fitting	On DIN rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.29 kg

#### Standards and directives

Type of protection	IP30 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity according to	EMC Directive 2014/30/EU
	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	Features
EY-IO533F001	I/O module, universal, digital, S0 inputs, modu533

<sup>1)</sup> Primary side of base station

<sup>2)</sup> Supply via base station



### Accessories

#### Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour

## EY-IO 534: I/O module, analogue inputs with galvanic isolation, modu534

### Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu524/525 automation station (AS)
- Receiving analogue inputs in operational systems, such as HVAC engineering
- 8 analogue inputs (U/I) with electrical isolation for non-isolated sensors with external power supply
- Power supply for I/O module of the automation station
- Direct labelling on the front
- Can be equipped with a local indicating unit



EY-IO534F001

### Technical data

#### Parameters

Power supply	From AS via I/O bus
Power consumption <sup>1)</sup>	≤ 3.5 VA / 1.3 W
Dissipated power	≤ 1.1 W
Current consumption <sup>2)</sup>	80 mA

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity without condensation	10...85% rh

#### Version

Analogue inputs	8 (with power applied)
Voltage	0(2)...10 V
Current	0(4)...20 mA
Max. external voltage	Common-mode voltage 80 V= $\sqrt{2}$ /50 V~

#### Interfaces and communication

Connection, I/O bus	12-pin, integrated
Connection terminals	24, 0.5...2.5 mm <sup>2</sup>
Connection LOI	6-pin, integrated

#### Construction

Fitting	On DIN rail
Weight	0.285 kg
Dimensions W x H x D	42 x 170 x 115 mm

#### 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 61000-6-2, EN 61000-6-4
----------------------------	--------------------------	---

### Overview of types

Type	Description
EY-IO534F001	I/O module, analogue inputs

<sup>1)</sup> Primary side of base station

<sup>2)</sup> Supply via base station





### Accessories

#### Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour

## EY-IO 550: I/O module, digital outputs (relays), modu550

### Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu524/525 automation station (AS)
- Activation of actuators such as contactors, valve actuators or displays of operational systems, e.g. in HVAC engineering
- 6 digital outputs
- Power supply of the automation station
- Direct labelling on the front
- Can be equipped with a local operating and indicating unit



EY-IO550F001

### Technical data

Power supply		
Power supply		From AS via I/O bus
Power consumption <sup>1)</sup>		≤ 2.9 VA/1.6 W
Dissipated power		≤ 1.6 W
Current consumption <sup>2)</sup>		≤ 100 mA
Ambient conditions		
Operating temperature		0...45 °C
Storage and transport temperature		-25...70 °C
Admissible ambient humidity		10...85% rh, no condensation
Inputs/outputs		
Digital outputs		6
Type of outputs		Relay (0-1), NO contact, galvanically isolated
Load		24...250 V~/2 A
Switching frequency, mechanical		10 <sup>6</sup> cycles
Interfaces and communication		
Connection LOI		6-pin, integrated
Connection, I/O bus		12-pin, integrated
Connection terminals		12 (0.5...2.5 mm <sup>2</sup> )
Construction		
Fitting		On DIN rail
Dimensions W x H x D		42 × 170 × 115 mm
Weight		0.3 kg
Standards and directives		
Type of protection		IP20 (EN 60529)
Protection class		I (EN 60730-1)
Environment class		3K3 (IEC 60721)
Software class		EN 60730-1
CE conformity according to	Low-Voltage Directive 2014/35/EU	EN 60730-1, EN 60730-2-9
	EMC Directive 2014/30/EU	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	Features
EY-IO550F001	I/O module, digital outputs (relays), modu550

<sup>1)</sup> Primary side of base station

<sup>2)</sup> Supply via base station



**Accessories****Local operating and indicating units (LOI)**

Type	Description
EY-LO630F001	16-LED indication, bi-colour
EY-LO650F001	6 switches, Auto-0-I, 4 LEDs operation/indication
EY-LO650F002	3 switches, Auto-0-II, 4 LEDs operation/indication

**Components**

Type	Description
0929360005	PCB relays (2 × pluggable electronic PCB with 3 relays, including connection terminals)

## EY-IO 551: I/O module, digital outputs (open collector), modu551



EY-IO551F001

### Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu524/525 automation station (AS)
- Activation of actuators such as relays or displays of operational systems, e.g. in HVAC engineering
- 16 digital outputs
- Power supply of the automation station
- Direct labelling on the front
- Can be equipped with a local operating and indicating unit

### Technical data

#### Power supply

Power supply	From AS via I/O bus
Power consumption <sup>1)</sup>	≤ 0.7 VA/0.35 W
Dissipated power	≤ 0.35 W
Current consumption <sup>2)</sup>	≤ 30 mA

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/outputs

Digital outputs	16
Type of outputs	Open collector, NO contacts (0-I) outputs switched with respect to ground
Power supply for DO	External, positive ≤ 24 V=
Load	0.5 mA up to 100 mA

#### Interfaces and communication

Connection, modu6**	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm <sup>2</sup> )

#### Construction

Fitting	On DIN rail
Dimensions W x H x D	42 x 170 x 115 mm
Weight	0.29 kg

#### Standards and directives

Type of protection	IP30 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity according to	EMC Directive 2014/30/EU <sup>3)</sup> EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	Features
EY-IO551F001	I/O module, digital outputs (open collector), modu551

<sup>1)</sup> Primary side of base station

<sup>2)</sup> Supply via base station

<sup>3)</sup> EN 61000-6-2: In order to meet the European Standard, the power cables must not exceed 30 metres in length.



**Accessories****Local operating and indicating units (LOI)**

Type	Description
EY-LO630F001	16-LED indication, bi-colour
EY-LO650F001	6 switches, Auto-0-I, 4 LEDs operation/indication
EY-LO650F002	3 switches, Auto-0-II, 4 LEDs operation/indication



## EY-IO 570: I/O module, analogue outputs and universal inputs, modu570

### Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu524/525 automation station (AS)
- Actuation with a standard signal (0...10 V), receiving digital (alarm/status) and analogue inputs (Ni/Pt1000, U/I/Pot) in operational systems, e.g. in HVAC engineering
- 12 inputs/outputs
- Power supply of the automation station
- Direct labelling on the front
- Can be equipped with a local operating and indicating unit



EY-IO570F001

### Technical data

#### Power supply

Power supply	From AS via I/O bus
Power consumption <sup>1)</sup>	≤ 1.5 VA/0.8 W
Dissipated power	≤ 0.8 W
Current consumption <sup>2)</sup>	≤ 50 mA

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/outputs

Analogue outputs	4 (push-pull)
Load	≤ 2 mA
Universal inputs	8
Analogue	Ni1000/Pt1000, U/I/R, Pot
Digital	DI (approx. 3 Hz)

#### Interfaces and communication

Connection LOI	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm <sup>2</sup> )

#### Construction

Fitting	On DIN rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.29 kg

#### Standards and directives

	Type of protection	IP30 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
CE conformity according to	EMC Directive 2014/30/EU	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	Features
EY-IO570F001	I/O module, analogue outputs and universal inputs, modu570

<sup>1)</sup> Primary side of base station

<sup>2)</sup> Supply via base station



### Accessories

#### Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour
EY-LO670F001	4 setpoint transmitters (A-0...100%), 8 LEDs operation/indication

## EY-IO 571: I/O module, digital inputs/outputs (open collector), modu571

### Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu524/525 automation station (AS)
- Receiving digital inputs (alarm/status) and activation of actuators such as relays or displays of operational systems, e.g. in HVAC engineering
- 16 digital inputs/outputs
- Power supply of the automation station
- Direct labelling on the front
- Can be equipped with a local operating and indicating unit



EY-IO571F001

### Technical data

#### Power supply

Power supply	From AS via I/O bus
Power consumption <sup>1)</sup>	≤ 1 VA/0.4 W
Dissipated power	≤ 0.4 W
Current consumption <sup>2)</sup>	≤ 25 mA

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/outputs

Digital inputs/outputs	16
Type of inputs/outputs	Open collector, NO contacts (0-I), outputs switched with respect to ground (any arrangement)
Power supply for DO	External, positive ≤ 24 V=
Load	0 mA up to 100 mA
Power supply for DI	Internal, 13.5 V
Pulse counter	(DI) ≤ 50 Hz

#### Interfaces and communication

Connection, modu6 <sup>**</sup>	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm <sup>2</sup> )

#### Construction

Fitting	On DIN rail
Dimensions W x H x D	42 x 170 x 115 mm
Weight	0.29 kg

#### Standards and directives

Type of protection	IP30 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity according to	EMC Directive 2014/30/EU <sup>3)</sup> EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

<sup>1)</sup> Primary side of base station

<sup>2)</sup> Supply via base station

<sup>3)</sup> EN 61000-6-2: In order to meet the European Standard, the power cables must not exceed 30 metres in length.



**Overview of types**

Type	Features
EY-IO571F001	I/O module, digital inputs/outputs (open collector), modu571

**Accessories**

## Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour
EY-LO650F001	6 switches, Auto-0-I, 4 LEDs operation/indication
EY-LO650F002	3 switches, Auto-0-I-II, 4 LEDs operation/indication

## EY-IO 572: I/O module, analogue outputs, universal and digital inputs, modu572

### Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu524/525 automation station (AS)
- Actuation with a standard signal (0...10 V), receiving digital (alarm/status) and analogue inputs (Ni/Pt1000, U/I/Pot) in operational systems, e.g. in HVAC engineering.
- 15 inputs/outputs
- Power supply of the automation station
- Direct labelling on the front
- Can be equipped with a local operating and indicating unit



EY-IO572F001

### Technical data

#### Power supply

Power supply	From AS via I/O bus
Power consumption <sup>1)</sup>	≤ 1.8 VA/0.8 W
Dissipated power	≤ 0.8 W
Current consumption <sup>2)</sup>	≤ 110 mA

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/outputs

Analogue outputs	4× 0...10 V/0...20 mA (source)
Load	≤ 20 mA
Load ≥ 5 kΩ	Output 0...10 V / 2...10 V
Load ≤ 400 kΩ	Output 0...20 mA / 4...20 mA
Admissible load voltage	< 2 V (0(4)...20 mA)
Universal inputs	8
Analogue	Ni1000/Pt1000, U/I/R, Pot
Digital	DI (≤ 3 Hz)
Digital inputs	3 fixed assignment
Pulse counter	≤ 50 Hz

#### Interfaces and communication

Connection LOI	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm <sup>2</sup> )

#### Construction

Fitting	On DIN rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.29 kg

#### Standards and directives

Type of protection	IP30 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)

CE conformity according to	EMC Directive 2014/30/EU	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
----------------------------	--------------------------	---

<sup>1)</sup> Primary side of base station

<sup>2)</sup> Supply via base station



**Overview of types**

Type	Features
EY-IO572F001	I/O module, analogue outputs, universal and digital inputs, modu572

**Accessories**

## Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour
EY-LO670F001	4 setpoint transmitters (A-0...100%), 8 LEDs operation/indication



# SAUTER field modules

Field modules from SAUTER expand the automation stations by adding more inputs and outputs. The field modules can be situated up to 100 metres away from the automation station.

## Overview of field modules



Type designation	EY-LM590F001	EY-FM164F001	EY-FM165F001	EY-FM170F001	EY-FM174F001
Product name	modu590	modu164	modu165	modu170	modu174
Power supply	External, 24 V~/=	Via Bus, 24 V~/=	Via Bus, 24 V~/=	Via Bus, 24 V~/=	Via Bus
For stations	modu524/525	modu590, modu225	modu590, modu225	modu590, modu225	modu590, modu225
Connection	novaLink	novaLink	novaLink	novaLink	novaLink
<b>Inputs/outputs</b>					
Digital inputs	16	–	–	–	16
Analogue outputs	4	–	–	4	–
Digital outputs	2-4	4	4	–	–
<b>Further information</b>	Page 29	Page 31	Page 33	Page 35	Page 37



EY-LM590F001

## EY-LM 590: novaLink module, modu590

### Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu524/525 automation station (AS)
- Suitable for connecting EY-FM 1\*\* and EYY 1\*\* remote units
- 24 V ~/= external power supply
- Up to 8 field modules per novaLink module with DC power supply, 6 with AC power supply
- I/O bus and novaLink electrically isolated from each other
- Direct labelling on the front
- Can be equipped with a local operating and indicating unit

### Technical data

#### Power supply

Power supply	24 V=, ±10% 24 V~, +20%/-15%, 50...60 Hz
Power consumption	Max. 20 W
Dissipated power	Max. 1 W
Current consumption	Max. 1.2 A
Max. peak inrush current	Max. 20 A (2 ms)

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Interfaces and communication

Connection LOI	6-pin, integrated in electronics module
Connection, I/O bus	12-pin, integrated in base
Connection terminals	24 (0.5...2.5 mm <sup>2</sup> )

#### Construction

Fitting	On DIN rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.315 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 2014/30/EU EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	Features
EY-LM590F001	novaLink module, 8 novaLink channels, modu590

### Accessories

#### Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour

#### Field modules

Type	Description
EY-FM164F001	moduLink 164 digital output 4× 0-I (change-over relay)
EY-FM165F001	moduLink 165 digital output 2× 0-I-II (change-over relay)



Type	Description
EY-FM170F001	moduLink170 analogue output 4× 0...10 V (2× 0...20 mA)
EY-FM174F001	moduLink174 digital input 16×



EYFM164F001

## EY-FM 164: Field module for digital outputs 0-I, moduLink 164

### Features

- Part of the SAUTER EY-modulo system family
- 4 digital outputs
- Remote unit for modu590 and modu225
- Front insert for direct labelling
- Can be located up to 100 m from the automation station (AS)
- Defined relay statuses can be preselected for the priority/watchdog functions
- Can be used for local priority operation with manual control of outputs
- Communication/power supply via novaLink connection (2-wire) of AS
- 1 output, novaLink bus monitoring
- LED indicator and manual operation

### Technical data

#### Power supply

Power supply	From AS (via novaLink)
External supply	24 V~/=
Current consumption	≤ 150 mA
Dissipated power	≤ 1 W

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/outputs

Digital outputs	4 × 0-I relay, change-over contacts
Switching frequency	> 5 × 10 <sup>6</sup> cycles
Load	250 V~/2 A resistive load

#### Interfaces and communication

Activation	From modu590, modu225, nova225, nova106 (EYX 168)
Connection	novaLink bus ≤ 100 m (cable shielded, twisted and earthed on both ends < 5 nF/< 7.5 Ω)

#### Construction

Dimensions W x H x D	105 × 90 × 60 mm
Weight	0.24 kg

#### Standards and directives

Type of protection	IP00 (EN 60529)
Protection class	II (EN 60730-1)
Environment class	3K3 (IEC 60721)
Mode of operation	Type 1 C (EN 60730)
CE conformity according to	EMC Directive 2014/30/EU <sup>1)</sup> EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-Voltage Directive 2014/35/EU EN 60730-1

<sup>1)</sup> EN 61000-6-2: In order to meet the European Standard, the power cables for the inputs must not exceed 30 m in length



**Overview of types**

Type	Features
EY-FM164F001	Field module for digital outputs 0-1, modulink164

**Accessories**

Type	Description
0920000164	Front insert, printable, yellow, 1 A4 sheet with 6 inserts each, perforated



EYFM165F001

## EY-FM 165: Field module for digital outputs 0-I-II, moduLink 165

### Features

- Part of the SAUTER EY-modulo system family
- 2 digital outputs/2-step
- Remote unit for modu590 and modu225
- Front insert for direct labelling
- Can be located up to 100 m from the automation station (AS)
- Defined relay statuses can be preselected for the priority/watchdog functions
- Can be used for local priority operation with manual control of outputs
- Communication/power supply via novalink connection (2-wire) of AS
- 1 output, novalink bus monitoring
- LED indicator and manual operation

### Technical data

#### Power supply

Power supply	From AS (via novalink)
External supply	24 V~/=
Current consumption	≤ 150 mA
Dissipated power	≤ 1 W

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/outputs

Digital outputs	2 × 0-I-II relay, change-over contacts
Switching frequency	> 5 × 10 <sup>6</sup> cycles
Load	250 V~/2 A resistive load

#### Interfaces and communication

Activation	From modu590, modu225, nova225, nova106 (EYX 168)
Connection	novalink bus ≤ 100 m (cable shielded, twisted and earthed on both ends < 5 nF/< 7.5 Ω)

#### Construction

Dimensions W x H x D	105 × 90 × 60 mm
Weight	0.24 kg

#### Standards and directives

Type of protection	IP00 (EN 60529)
Protection class	II (EN 60730-1)
Environment class	3K3 (IEC 60721)
Mode of operation	Type 1 C (EN 60730)
CE conformity according to	EMC Directive 2014/30/EU <sup>1)</sup> EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-Voltage Directive 2014/35/EU EN 60730-1

<sup>1)</sup> EN 61000-6-2: In order to meet the European Standard, the power cables for the inputs must not exceed 30 m in length



**Overview of types**

Type	Features
EY-FM165F001	Field module for digital outputs O-II, modulink165

**Accessories**

Type	Description
0920000165	Front insert, printable, yellow, 1 A4 sheet with 6 inserts each, perforated





EYFM170F001

## EY-FM 170: Field module for analogue outputs 0...10 V (0...20 mA), moduLink170

### Features

- Part of the SAUTER EY-modulo system family
- 4 analogue outputs
- Remote unit for modu590 and modu225
- Front insert for direct labelling
- Can be located up to 100 m from the automation station (AS)
- Defined signal values can be preselected for the priority or watchdog functions
- Can be used for local priority operation with manual control of outputs
- Communication and power supply via novaLink connection (2-wire) of AS
- 1 output, novaLink bus monitoring

### Technical data

Power supply		
Power supply		From AS (via novaLink)
External supply		24 V~/=
Current consumption		≤ 100 mA
Dissipated power		≤ 1 W
Ambient conditions		
Operating temperature		0...45 °C
Storage and transport temperature		-25...70 °C
Admissible ambient humidity		10...85% rh, no condensation
Inputs/outputs		
Analogue outputs		2 × 0...10 V 2 × 0...10 V/0...20 mA
Interfaces and communication		
Activation		From modu590, modu225, nova225, nova106 (EYX172)
Connection		novaLink bus ≤ 100 m (cable screened, twisted and earthed at both sides, < 5 nF/< 7.5 Ω)
Construction		
Dimensions W x H x D		105 × 90 × 60 mm
Weight		0.24 kg
Standards and directives		
Type of protection		IP00 (EN 60529)
Protection class		III (EN 60730-1)
Environment class		3K3 (IEC 60721)
CE conformity according to	EMC Directive 2014/30/EU <sup>1)</sup>	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	Features
EY-FM170F001	Field module for analogue outputs 0...10 V (0...20 mA), moduLink170

<sup>1)</sup> EN 61000-6-2: In order to meet the European Standard, the power cables for the inputs must not exceed 30 m in length



**Accessories**

Type	Description
0920000170	Front insert, printable, yellow, 1 A4 sheet with 6 inserts each, perforated



EYFM174F001

## EY-FM 174: Field module for digital inputs, moduLink174

### Features

- Part of the SAUTER EY-modulo system family
- 16 digital inputs
- Remote unit for modu590 and modu225
- Front insert for direct labelling
- Can be located up to 100 m from the automation station (AS)
- Bi-colour LED indicators (red/green)
- Communication and power supply via novaLink bus (2-wire) of AS

### Technical data

#### Power supply

Power supply	From AS (via novaLink)
Current consumption	≤ 120 mA
Input resistance	≤ 1 kΩ (incl. cable)
Dissipated power	≤ 1 W

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/outputs

Digital inputs	16 potential-free contacts, grounded
Polling cycle	150 ms
Detection time	30 ms

#### Interfaces and communication

Activation	From modu590, modu225, nova225, nova106 (EYX 176)
Connection	novaLink bus ≤ 100 m (cable shielded, twisted and grounded at both ends, < 5 nF/< 7.5 Ω)

#### Construction

Dimensions W x H x D	105 × 90 × 60 mm
Weight	0.24 kg

#### Standards and directives

Type of protection	IP00 (EN 60529)
Protection class	III (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity according to	EMC Directive 2014/30/EU <sup>1)</sup> EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	Features
EY-FM174F001	Field module for digital inputs, moduLink174

### Accessories

Type	Description
0920000174	Front insert, printable, yellow, 1 A4 sheet with 6 inserts each, perforated

<sup>1)</sup> EN 61000-6-2: In order to meet the European Standard, the power cables for the inputs must not exceed 30 m in length



# SAUTER modulo 5 operating units

SAUTER operating units allow you to display the current status of the inputs and to directly override the outputs of the automation station (AS) and the I/O modules.

## Overview of operating units



Type designation	EY-OP840F001	EY-LO625F001	EY-LO630F001
Product name	modu840	modu625	modu630
Power supply	From AS	From AS	From AS or I/O module
Device	Operating unit	Operating unit with LED	Operating unit with LED
Function	Visualisation, operation	6 manual/auto switches, 4 slide switches	Status/alarm
Display	Structured installations	6 DO (A-0-I), 4 LEDs, 4 AO (A-0...100%), 8 LEDs	16 LEDs
For stations	modu525	modu525	modu525
For I/O modules	–	–	modu530...533, modu550, modu551, modu571, modu570, modu572
Interfaces	I/O bus	I/O bus	I/O bus
Further information	Page 39	Page 41	Page 41



Type designation	EY-LO650F001	EY-LO650F002	EY-LO670F001
Product name	modu650	modu650	modu670
Power supply	From AS or I/O module	From AS or I/O module	From AS or I/O module
Device	Operating unit with LED	Operating unit with LED	Operating unit with LED
Function	6 manual/auto switches	3 manual/auto switches	4 slide switches
Display	6 DO (A-0-I), 4 LEDs	3 DO (A-0-I), 4 LEDs	4 AO (A-0...100%), 8 LEDs
For stations	modu525	modu525	modu525
For I/O modules	modu550, modu551, modu571	modu550, modu551, modu571	modu570, modu572
Interfaces	I/O bus	I/O bus	I/O bus
Further information	Page 41	Page 41	Page 41



EY-OP840F001

## EY-OP 840: Local operating unit, modu840

### Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu524/modu525 automation stations (AS)
- Local operating and display unit for direct local and manual operation of the AS
- Intuitive single-button operation (using the "turn and press" method)
- Graphic display with various font sets and types
- Menu-led navigation with user login for operation rights
- Visualisation of information with structured installation display
- Two LED indicators for installation alarm and function status
- Displays objects, alarms and other information
- Choice of four languages
- Can be fitted remotely (using accessories) in cabinet

### Technical data

#### Power supply

Power supply	From AS
Power consumption	≤ 50 mA
Dissipated power	≤ 0.1 W

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Indicators, display, operation

Resolution	160 × 100 pixels, monochrome (LCD)
Operation	Turn and press
Rotary knob	+/-, down/up
Acknowledgement	OK (short), start (long > 3 s)

#### Interfaces and communication

Internal connection	5-pin pogo pins for supply and data communication
---------------------	---

#### Construction

Weight	0.11 kg
Dimensions W x H x D	85 × 94 × 25 mm

#### Standards and directives

Type of protection	IP20 (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 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 55024

### Overview of types

Type	Features
EY-OP840F001	Local operating unit, modu840



**Accessories**

Type	Description
7010035001	modu840 user manual, German
7010035002	modu840 user manual, French
7010035003	modu840 user manual, English
0930240511	Front frame for 4 operating/indicating units
0930240541	Connection adaptor for RJ-45 operating panel for front frame

## EY-LO 625...670: Local operating and indicating units, modu625...670



EYLO625F001



EYLO630F001



EYLO650F001



EYLO650F002



EYLO670F001

### Features

- Part of the SAUTER EY-modulo 5 system family
- Pluggable elements for direct operation/indication of modu524/525 automation station (AS) and nova-Link and I/O modules
- Direct operation via switches/sliders (as per EN ISO 16484-2:2004 "Local override and indication devices")
- Separate indicator for manual operation
- Ready for use without parameterising

### Technical data

Power supply		
Power supply	From AS, novaLink and modu5** I/O module	
Parameters		
Factory setting	All switches set to "A" (Auto)	
Ambient conditions		
Operating temperature	0...45 °C	
Storage and transport temperature	-25...70 °C	
Admissible ambient humidity	10...85% rh, no condensation	
Interfaces and communication		
Connection for novaLink or I/O module, AS or lowering frame	Spring contacts, 9-pin	
Standards and directives		
Type of protection	IP30 (EN 60529)	
Protection class	III (EN 60730-1) PELV	
Environment class	3K3 (IEC 60721)	
CE conformity according to	EMC Directive 2014/30/EU	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

**i** Power consumption: On primary side of base station (230 V~)

**i** Current consumption: Supply via base station

Type	EY-LO625F001	EY-LO630F001	EY-LO650F001	EY-LO650F002	EY-LO670F001
Use	modu521, modu524, modu525 (from hardware index C)	modu524/525, modu530...590	modu524/525, modu550, 551, 571	modu524/525, modu550, 551, 571	modu524/525, modu570, 572
Power consumption	≤ 2 VA/0.7 W	≤ 1 VA/0.35 W	≤ 1 VA/0.35 W	≤ 1 VA/0.35 W	≤ 1 VA/0.35 W
Dissipated power	≤ 0.7 W	≤ 0.35 W	≤ 0.35 W	≤ 0.35 W	≤ 0.35 W
Current consumption	≤ 40 mA	≤ 20 mA	≤ 20 mA	≤ 20 mA	≤ 20 mA
Operation	6 switches (A-0-I), 4 sliders (A-0...100%)	-	6 switches (A-0-I)	3 switches (A-0-II)	4 sliding switches (A-0...100%)
Indicator/display	4 LEDs (bi-colour), analogue: 8 LEDs (bi-colour)	16 LEDs (bi-colour)	4 LEDs (bi-colour)	4 LEDs (bi-colour)	8 LEDs (bi-colour)
Dimensions W x H x D	84 x 92 x 13 mm	42 x 92 x 13 mm	42 x 92 x 13 mm	42 x 92 x 13 mm	42 x 92 x 13 mm
Weight	0.07 kg	0.03 kg	0.03 kg	0.03 kg	0.03 kg



**Accessories**

Type	Description
0930240511	Front frame for 4 operating/indicating units
0930240540	Connection adaptor for RJ-45 operating/indicating units for front frame





EY-WS500F005

## EY-WS 500: Web server for moduWeb Vision and moduWeb500 BACnet networks

### Features

- Part of the SAUTER EY-modulo 5 system family
- Visualisation and operation of facilities
- Facilities operated via internet using a standard web browser
- Online notification via e-mail and text message
- Recording of historical values and alarms
- Time and calendar functions (BACnet Schedule Client)
- Visualisation either in lists, dynamic images or diagrams
- Engineering/parametrising via PC using CASE Suite
- Communication with web client via standard HTTP protocol
- Secure communication with web client via encrypted HTTPS protocol
- Communication with mail server and SMS gateway via standard SMTP
- Communication with automation devices via BACnet/IP and BACnet web services (EN ISO 16484-5)
- Integrated firewall

### Technical data

#### Power supply

Power supply	24 V~/=, ±20%, 50...60 Hz= (EY-WS500F005, moduWeb500 hardware)
Low-voltage connector	10...35 V= Ø 5.5 mm external, Ø 2.5 mm internal
Power consumption	≤ 6.5 VA/5.5 W
Battery (buffer: RTC)	Lithium button-cell (CR2032), insertable
Serviceable life of battery	10 a

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...65 °C
Admissible ambient humidity	5...85% rh, no condensation

#### Architecture

Watchdog	Processor	ARM Cortex A8, 600 MHz
	RAM	RAM, 256 MB
	Flash	128 MB (permanent memory)
	Memory expansion	SD-HC card slot ≤ 32 GB
	Back-up medium	USB mass storage device, ≤ 250 mA USB 2.0, type A connection

#### Interfaces and communication

Ethernet network	1 × RJ-45 connector
10/100 BASE-T(X)	10/100 Mbit/s
Communication protocols	BACnet/IP (DIX)
Max. load	15 V, 10 mA

#### Construction

Weight	0.8 kg
Dimensions W x H x D	133 × 170 × 61 mm
Fitting	Cabinet, DIN rail



**Standards and directives**

	Type of protection <sup>1)</sup>	IP20 (EN 60529)
	Protection class	III (EN 60730-1)
	Environment class	3K3 (IEC 60721)
	Low-Voltage Directive 2014/35/EU	EN 60730-1, EN 60950-1
CE conformity according to	EMC Directive 2014/30/EU	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Software class	EN 60730-1 Appendix H

**Overview of types**

Type	Description
EY-WS500F005	moduWeb500 hardware
EY-WS505F010	moduWeb Vision software for 800 DP, 75 diagrams, 25 users
EY-WS505F011	Upgrade from EY-WS505F010 to 2500 DP, 250 diagrams, 100 users
EY-WS505F020	moduWeb Vision software for 2500 DP, 250 diagrams, 100 users
EY-WS506F100	moduWeb Vision Touch, optional, incl. various resolutions
EY-TC505F110	Touch Client software for Windows 7

**Accessories****Manuals**

Type	Description
7010083001	Operating manual for moduWeb Vision, German
7010083002	Operating manual for moduWeb Vision, French
7010083003	Operating manual for moduWeb Vision, English

<sup>1)</sup> Only on front with terminal cover

# SAUTER modulo 5 communication modules

SAUTER communication modules enable third-party systems to be integrated on the automation level. Field-bus protocols, based on EIA-232 or EIA-485, such as Modbus/RTU and M-Bus, can be integrated directly on the automation station. The data is mapped in BACnet objects and is visible on the BACnet/IP network.

The devices of the moduNet series enable the SAUTER novaNet bus system to be integrated into parent IT networks. A direct Ethernet interface and BACnet gateway functionality are provided for this purpose.

## Overview of communication modules



Type designation	EY-CM 721	EY-CM 731
Product name	modu721	modu731
Interfaces	EIA-232 EIA-485	EIA-232 M-Bus
Protocol	Modbus M-Bus	M-Bus
Further information	Page 46	Page 48



Type designation	EY-BU292F001	EY-BU292F002	EYZ291F001
Product name	moduNet292	moduNet292	novaNet291
Property	Connection of novaNet to Ethernet/IP	Connection of novaNet to Ethernet/IP	Router
Fitting	Cabinet model	Desktop model	Cabinet model
Further information	Page 50	Page 50	Page 52

## EY-CM 721: Communication module with EIA-232 and EIA-485 interfaces, modu721



EY-CM721F010

### Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu524/525 automation station (AS)
- One or two COM modules per AS
- Connection to non-SAUTER systems (PLC, chillers, meters etc.)
- Connection for point-to-point protocols with EIA-232 interface
- Connection for field bus protocols based on EIA-485
- 2-wire EIA-485 (half-duplex)
- Galvanic isolation up to 300 V
- Jumper for EIA-485 bus voltage, bus termination and connection for galvanic isolation
- M-Bus and further integration of third-party products with the AS for integrated control and optimised regulation and the option to use BACnet/IP communication with the management level.
- Direct labelling on the front

### Technical data

#### Power supply

Power supply	From AS via I/O bus
Per AS at location 1 or 2	≤ 2 COM modules
Current consumption	≤ 150 mA
Dissipated power	≤ 1.2 W

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Architecture

Protocol processor	FPGA
COM port	UART
Memory	Flash memory (user and protocol data)
Number of data points	≤ 200

#### Interfaces and communication

COM port, EIA-232 (DTE)	D-Sub plug (9-pin, male)
COM port, EIA-485	6 screw terminals (2 × C, 2 × D+, 2 × D-)
Baud rate	0.3...57.6 kbit/s
Data bits	5, 6, 7, 8
Stop bits	1, 1.5, 2
Parity	None, even, odd
Connection, I/O bus	12-pin, integrated in base

#### Construction

Fitting	On DIN rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.8 kg

#### Standards and directives

Type of protection	IP20 (EN 60529)
Protection class	III (EN 60730-1)
Environment class	3K3 (IEC 60721)



	Software class	EN 60730-1 Appendix H
CE conformity according to	EMC Directive 2014/30/EU <sup>1)</sup>	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	Protocol
EY-CM721F010	Communication module for Modbus/RTU (master, EIA-232 or EIA-485)
EY-CM721F020	Communication module for M-Bus (master, EIA-232 or EIA-485)

### Accessories

Type	Description
7010037001	Manual for moduCom communication modules, German
7010037002	Manual for moduCom communication modules, French
7010037003	Manual for moduCom communication modules, English
0386301001	Connection cable COM DB9(f)-DB9(f), 3 m (null modem)

<sup>1)</sup> EN 61000-6-1: EIA-232 cable max. 15 m in length; EIA-485: Shielded cable 2 × 2 twisted pair

## EY-CM 731: Communication module with M-Bus and EIA-232 interfaces, modu731



EY-CM731F020

### Features

- Part of the SAUTER EY-modulo system family
- Plug-in element for extending the modu524/525 automation station (AS)
- One or two COM modules per AS
- EIA-232 interface for point-to-point connection with an M-Bus level converter
- Two-wire M-Bus network (as per EN 1434-3)
- Connection to M-Bus meter networks for up to 200 meters (heat meter, electricity meter, etc.)
- Recording counting values at automation level allows optimum control and regulation of systems and offers the option of using BACnet/IP communication at the management level.
- Without external power supply: up to 10 M-Bus meters
- With external power supply: up to 50 M-Bus meters
- D-Sub plugs (9-pin, male, DTE) for connecting to external M-Bus level converter
- Direct labelling on the front

### Technical data

#### Power supply

	Power supply	From AS via I/O bus
	Current consumption	≤ 200 mA
	Dissipated power	≤ 3.28 W
External power supply	For 1...50 meters on the M-Bus network	24 V~ (±20%)/24 V= (±20%)
	Power consumption	5 W, 6 VA (for 11...50 meters on the M-Bus network)
	Screw terminals	2 (MM, LS)

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Architecture

Protocol processor	FPGA
COM port	UART
Memory	Flash memory (user and protocol data)
Number of data points	≤ 200

#### Interfaces and communication

COM port, EIA-232 (DTE)	D-Sub plug (9-pin, male)
COM port, M-Bus (EN 1434-3)	4 screw terminals (2 × M+, 2 × M-)
Baud rate	0.3...9.6 (38.4) kbit/s
Connection, I/O bus	12-pin, integrated in base
Protocol	M-Bus (master)

#### Construction

Fitting	On DIN rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.8 kg

#### Standards and directives

Type of protection	IP20 (EN 60529)
Protection class	III (EN 60730-1)
Environment class	3K3 (IEC 60721)



	Software class	EN 60730-1 Appendix H
CE conformity according to	EMC Directive 2014/30/EU <sup>1)</sup>	EN 61000-6-1, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	Features
EY-CM731F020	Communication module with M-Bus and EIA-232 interface, modu731

### Accessories

Type	Description
7010037001	Manual for moduCom communication modules, German
7010037002	Manual for moduCom communication modules, French
7010037003	Manual for moduCom communication modules, English
0386301001	Connection cable COM DB9(f)-DB9(f), 3 m (null modem)

<sup>1)</sup> EN 61000-6-1: EIA-232 cable max. 15 m in length. M-Bus cable: Twocore, twisted pair

## EY-BU 292: novaNet-Ethernet interface, moduNet292

### Features

- Part of the SAUTER EY-modulo 2 system family
- Bus access device for novaNet system bus with Ethernet interface
- To integrate novaNet stations (EY3600, EY-modulo 2) into IP networks based on Ethernet (LAN/WAN)
- For SAUTER CASE Suite applications
- To download programmes onto the stations
- For SAUTER novaPro visualisations
- For remote monitoring via the internet
- TCP/IP communication
- Communication with two-wire novaNet system bus
- RJ-45 plug for Ethernet 10 Base-T (10 Mbit/s)
- Fixed IP addressing
- RS-232 interface for parameterisation and updating
- Five LEDs for Error, novaNet Send, Power, Activity, Link



EY-BU292F001



EY-BU292F002

### Technical data

#### Power supply

Power supply	230 V~, +10%, -15% 115 V~, +10%, -15% (50...60 Hz)
Power consumption	6 VA, < 7 W

#### Ambient conditions

Operating temperature	0...45 °C (32...113 °F)
Storage and transport temperature	-25...70 °C (-13...158 °F)
Admissible ambient humidity	10...85% rh, no condensation

#### Interfaces and communication

Ethernet	1 × RJ-45 socket 10 Mbit/s (10 Base-T)
RS-232 serial port	1 × DB-9 (male) as per DTE (57k6, 8n1)

#### Standard settings

TCP/IP address	192.168.10.20
Subnet mask	255.255.255.0
TCP port (App 1)	51806 (nova292-Server)
TCP port (App 2)	51807 (nova291-Emulation)

#### Construction

Fitting	EY-BU292F001: DIN rail Installation EY-BU292F002: desktop model
---------	---

#### Standards and directives

Type of protection	IP00 (EN 60529); IP20 (EN 60529)
Protection class	I (EN 60730-1)
Software class	EN 60730-1 Appendix H

#### CE conformity according to

EMC Directive 2014/30/EU	EN 61000-6-1, EN61000-6-2, EN 61000-6-4
Low-Voltage Directive 2014/35/EU	EN 60950-1

### Overview of types

Type	Description	Dimensions W × H × D	novaNet	Weight
EY-BU292F001	panel-fitted model	193 × 131 × 41 mm	1 × α/b terminal	0.65 kg
EY-BU292F002	desktop model	228 × 131 × 41 mm	1 × RJ-11 socket	0.7 kg





## Accessories

### Software

Type	Description
GZS100F599	CASE Tools CD, latest version (CASE TPC, CASE HWC, CASE Sun, novaNet292 SW etc.)

### Connecting cables

Type	Description
0367862001	novaNet RJ-11 to RJ-11: 1.5 m
0367862002	novaNet RJ-11 to RJ-11: 2.9 m
0367862003	novaNet RJ-11 to RJ-11: 6.0 m
0367842002	Ethernet RJ-45 to RJ-45: 1.5 m
0367842003	Ethernet RJ-45 to RJ-45: 2.9 m
0367842004	Ethernet RJ-45 to RJ-45: 6.0 m
0386507001	Ethernet crossover RJ-45 to RJ-45: 3.0 m

### General information

Type	Description
0374509001	Connector, 3-pin, packaged
0010240105	Cable housing for 0374509 001, cable cord grip
0374677001	Installation kit for 2-DIN rail mounting (for F001)

## EYZ 291: Router, novaNet291

### Features

- Part of the EY-modulo 2 and EY3600 system family
- Bus access device for novaNet system bus with RS-232 interface
- For configuring EY-modulo 2 and EY3600 stations with SAUTER CASE applications
- For management-level software and all SAUTER novaPro visualisations and novaNet OPC servers
- Direct communication from novaNet stations to PC with a serial connection
- Remote access with router function via RS-232 modem
- Remote monitoring in routel mode via RS-232 modem (i.e. automatic uploading of events)
- Communication using two-wire novaNet system bus
- Communication with RS-232-compatible pairs of devices (dial-up modem, ISDN adapter, electronic surge protector, OWG converter, wireless modem etc.)
- 1 MB buffer for separating the time characteristics of novaNet and RS-232 interface



EYZ291F001

### Technical data

#### Power supply

Power supply	230 V~, 50/60 Hz
Max. current consumption	10 VA

#### Ambient conditions

Operating temperature	0...45 °C (32...113 °F)
Storage and transport temperature	-25...70 °C (-13...158 °F)
Humidity	10...90% rh, no condensation

#### Interfaces and communication

COM port (DTE)	DB9 plug
novaNet	1 × a/b terminal, 1 × RJ-11 socket
DIP switch	4 (baud rate, router/routel function)

#### Construction

Weight	0.99 kg (2.2 lb)
--------	------------------

#### Standards and directives

	Type of protection	
CE conformity according to	EMC Directive 2014/30/EU	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	Description
EYZ291F001	novaNet router

### Accessories

Type	Description
0367862001	Connecting cable to novaNet291 or moduNet292 automation station 1.5 m (4.9 ft)
0367862002	Connecting cable to novaNet291 or moduNet292 automation station 2.9 m (9.5 ft)
0367862003	Connecting cable to novaNet291 or moduNet292 automation station 6.0 m (19.7 ft)



# SAUTER modulo 5 room automation stations

The areas of use for the SAUTER ecos 5 room automation stations range from precise room control with heating and cooling to integrated room automation with demand-based ventilation, lighting and sunshading. The scalable solutions for controlling and regulating the rooms are individually adjusted to the required functional scope and the usage profile. You thus reduce your energy consumption, your costs and CO<sub>2</sub> emissions while providing maximum comfort and well-being. The ecos 5 enables the floor space to be adjusted flexibly during operation by dividing the area on each floor into room segments.

## Overview of room automation stations



Type designation	EY-RC500F001/F002	EY-RC504F0**	EY-RC505F0**
Product name	ecos500	ecos504	ecos505
Function	4 room segments	8 room segments	8 room segments
Power supply	230 V~	24 V=/~	24 V=/~
SLC/RS-485 interfaces	2	2	2
Room operating units	1 x 4	2 x 4	2 x 4
I/O extension modules	1 x 16	2 x 8	2 x 8
Communication interfaces	–	1	3
Communication protocols	SLC	SLC, KNX DALI, SMI	SLC, KNX DALI, SMI
Terminal type	Screw terminals (F001) Pluggable terminals (F002)	Push-in terminals	Push-in terminals
<b>Inputs/outputs</b>			
Universal inputs	8	–	–
Digital inputs	4	–	–
Normally-open relay contacts	16	–	–
Changeover relay contacts	–	–	–
Triac	8	–	–
Analogue outputs	4	–	–
BACnet profile	B-BC	B-BC	B-BC
<b>Objects</b>			
Data points	256	600	600
Loop	32	32	32
Calendar	8	16	16
Schedule	32	32	32
Trend Log	16	256	256
Notification Class	16	16	16
Further information	Page 54	Page 56	Page 56

## EY-RC 500: Room automation station, ecos500

### Features

- Part of the SAUTER EY-modulo 5 system family
- BACnet/IP communication (EN ISO 16484-5)
- Programming/parameterisation via PC using CASE Suite (based on IEC 61131-3)
- Room automation station for up to four rooms or room segments
- Can be extended with up to sixteen ecoLink remote I/O modules
- Free arrangement of hardware
- The ecoUnit 3 (EY-RU 3\*\*) and ecoUnit 1 (EY-RU 1\*\*) room operating units enable individual adjustment of the room climate
- Optimises energy consumption via presence function, window contact monitoring, demand-controlled switching of fan speeds, control of lighting and window blinds, and time-dependent setpoint specification
- Predictive control based on meteorological forecast data
- Time program and calendar function
- Integration into the building management system with BACnet/IP via Ethernet interface
- Control libraries



EYRC500F001



EYRC500F002



### Technical data

#### Power supply

Power supply	230 V~, ±10%, 50...60 Hz
Power consumption	≤ 34 VA (incl. 12 VA external)
Dissipated power	≤ 15 W
Battery (buffer: RTC/SRAM)	Lithium button-cell (CR2032), insertable

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/outputs

Inputs	Universal inputs	8, Ni1000, Pt1000, 0...10 V, DI
	Digital inputs	4
Outputs	Relay	16 normally-open contacts (250 V~) Terminals 1 to 28
	Triac	8 (24 V~)
	Analogue	4, 0...10 V

#### Function

Number of dynamic objects	BACnet data point objects	256 incl. HW
	Time programmes	32 (Schedule)
	Calendar	8 (Calendar)
	Alarms	16 (Notification Class)
	Historical data	16 (Trend Log) ≤ 2000 entries
	Control	32 (Loop)
	COV notifications	500
	Structured view	64 (Structured View)
	BACnet client links	200 (Peer-to-Peer)
	Number of BBMDs in BDT	32
	Number of FDs in FDT	32

#### Architecture

Processor	32 bit, 200 MHz
SDRAM (synchronous dynamic RAM)	32 MB
SRAM (static RAM)	128 kB



Flash	16 MB
Operating system	Linux
Cycle time	100 ms
Application data	Via CASE Engine

#### Interfaces and communication

Ethernet network	2 × RJ-45 socket (2-port switch)
10/100 BASE-T(X)	10/100 Mbit/s
Communication protocols	BACnet/IP
Operating units	≤ 4 in total, EY-RU 3** RS-485 A EY-RU 1** via EY-EM 580 to RS-485 A
Extension interface	RS-485 B

#### Construction

Fitting	Top-hat rail/wall
Dimensions W x H x D	299 × 120 × 73 mm
Weight	1.6 kg

#### Standards and directives

Type of protection <sup>1)</sup>	IP00 (EN 60529)
Protection class	I (EN 60730-1)
Energy class <sup>2)</sup>	I to VIII = up to 5% as per EU 811/2013, 2010/30/EU, 2009/125/EC
Environment class	3K3 (IEC 60721)
Mode of operation	Type 1 CI (EN 60730)
Software class	EN 60730-1 Appendix H
CE conformity according to	EMC Directive 2014/30/EU <sup>3)</sup> EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-Voltage Directive 2014/35/EU EN 60730-1, EN 60730-2-9

#### Overview of types

Type	Description
EY-RC500F001	With screw terminals
EY-RC500F002	With plug-in connectors

#### Accessories

Type	Description
0900240002	Terminal cover, 295 mm (2 pcs.)
0900240011	Wiring box, 295 mm (2 pcs.)

<sup>1)</sup> IP10 with terminal cover (accessory 090024002); IP20 with wiring box (accessory 090024011)

<sup>2)</sup> When the automation station is being used as a temperature controller, most temperature controller classes can be fulfilled according to EU Directive 2010/30/EU, Regulation 811/2013. For information on the exact temperature class, please refer to the system integrator's user program.

<sup>3)</sup> EN 61000-6-2: In order to meet the European Standard, the power cables for the digital inputs, analogue inputs and outputs, and the RS-485 cables must not exceed 30 metres in length

## EY-RC 504/505: Room automation station, ecos504/505

### Features

- Part of the SAUTER EY-modulo 5 system family
- Modular room automation station (AS) for up to eight rooms or eight flexible room segments
- BACnet/IP communication (EN ISO 16484-5) as BACnet Building Controller (B-BC)
- The ecoUnit 3 (EY-RU 3\*\*) and ecoUnit 1 (EY-RU 1\*\*) room operating units enable individual adjustment of the room climate
- Optimises energy consumption thanks to presence function, window contact monitoring, demand-controlled ventilation, control of lighting and window blinds, and time-dependent setpoint specification
- Function libraries for climate, lighting and sunshading
- Expansion bus for remote ecoLink modules, ecoUnit room operating units and EnOcean wireless interface
- KNX interface to connect KNX operating devices, sensors and actuators
- Integrated KNX tunnelling function (KNX/IP) for the commissioning of KNX with ETS
- DALI interface with DALI bus power supply for the connection of DALI electronic ballasts (EB) and DALI sensors
- Web-based commissioning tool for DALI network
- SMI interface (SMI/SMI LoVo) for activating SMI motors for sunshading (window blinds, roller shutters)
- Integrated tunnelling function for commissioning with SMI-easyMonitor
- RS-485 half duplex, electrically isolated interface for Modbus/RTU, Modbus/ASCII
- Baud rate 600 to 115,200 bit/s with configurable RS-485 network resistors
- Modbus master with up to four Modbus communication profiles
- Integrated tunnelling function for commissioning and monitoring with serial Modbus master tools
- Time programme and calendar function; data recording
- Integrated moduWeb web server (only EY-RC504F101)
- Engineering/programming using SAUTER CASE Suite (based on IEC 61131-3)
- Integration into the building management system via BACnet/IP with Ethernet interface



EY-RC 504



EY-RC 505



### Technical data

#### Power supply

Power supply	24 V= ±10% 24 V~ +25%/-15%, 48...63 Hz
Current consumption	EY-RC504F**1: max. 0.33 A EY-RC504F021: max. 0.43 A EY-RC 505 (without DALI): max. 0.33 A EY-RC 505 (with DALI): max. 0.61 A
Max. peak inrush current	23 A (10 ms)
Power consumption	EY-RC504F**1: 4 W/8 VA; typ. 2.5 W EY-RC504F021: max. 6 W/10 VA EY-RC 505 (without DALI): 4 W/8 VA EY-RC 505 (with DALI): max. 9 W/14 VA
Connection	Spring-type terminals 0.2...2.5 mm <sup>2</sup> rigid/flexible Ampacity max. 5 A

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation



Function		
BACnet	BACnet profile	B-BC (EN ISO 16484-5)
	BACnet data point objects	600 (incl. HW)
	Control	32 (Loop)
	Active COV subscription	1500
	BACnet client links	200 (Peer-to-Peer)
Dynamic objects	Time programmes	32 (Schedule)
	Calendar	16 (Calendar)
	Alarms	16 (Notification Class)
	Historical data	256 (Trend Log) up to 60,000 entries
	Chart	32 (Log View), only moduWeb (F101)
Services	Command object	16 (Command)
	Number of BBMDs in BDT	32
	Number of FDs in FDT	32
Architecture		
	Processor	32-bit, 600 MHz (ARM)
	SDRAM (synchronous dynamic RAM)	128 MB
	SRAM (static RAM)	64 kB
	Flash	128 MB
	Operating system	Embedded Linux
	Cycle time	100 ms
	Application data	Via CASE Engine
	Embedded web server	moduWeb (only EY-RC504F101)
Interfaces and communication		
Ethernet network	Communication protocol	BACnet/IP
	Connection	2 × RJ-45 connector
	Type	10/100 BASE-TX switched
RS-485 A, RS-485 B	Communication protocol	2 × RS-485, SLC
	Use	ecoLink modules and ecoUnit 1, ecoUnit 3 operating devices
	Participant	Max. 2 × 8 ecoLink modules Max. 2 × 4 ecoUnit 1 or ecoUnit 3
	Power supply	5 V ±5% < 200 mA (sum of both RS-485), protected against short circuit
	Connection	Pluggable spring-type terminals 2 × 4-pin
		0.2...1.5 mm <sup>2</sup> rigid/flexible
	Cable <sup>1)</sup>	4-wire, twisted, shielded
	Cable length <sup>2)</sup>	Max. 100 m (30 m) with ecoUnit, up to 500 m, bus termination necessary
	KNX	Communication protocol
Power consumption		KNX bus max. 6 mA
Bus power supply		Via external KNX power supply
Connection		KNX bus terminal x4 0.6...0.8 mm rigid lines
Line		KNX cable, 2-wire, twisted
Use		KNX actuators and sensors
Participant		Up to 64 KNX devices, depending on the external KNX power supply
Functions		256 KNX group addresses for BACnet I/O objects (256 channels)
DALI (per COM module)	Communication protocol	DALI (IEC 62386-101/-103)
	Power consumption	DALI bus max. 2 mA (only when operating with external power supply)

<sup>1)</sup> Example cable CAF5, J-Y(ST)Y, RS-485 bus cable (e.g. Belden 9842)

<sup>2)</sup> With the cable length and the conductor cross-section, the supply voltage (+5 V) for the ecoUnit 3 must not fall below the minimum required voltage due to the voltage drop.

	Bus power supply	Typ. 16 V, max. 116 mA (can be switched off for external bus power supply)
	Connection	Spring-type terminals 0.2...2.5 mm <sup>2</sup> rigid/flexible
	Line	2-wire, NYM..., up to 300 m
	Use	DALI ballasts (IEC 62386-102) DALI sensors (see list)
	Participant	Up to 64 DALI ballasts and 64 DALI sensors (depending on type and bus power supply)
	Functions	256 DALI functions for BACnet I/O objects (256 channels) with addressable 64 DALI short addresses and 16 group addresses
SMI (per COM module)	Communication protocol	SMI master (SMI standard V2.3.2)
	Bus power supply	Typ. 17 V, max. 20 mA, for 16 motors typ. 12.8 mA (0.8 mA/motor), protected against short circuit (30 mA)
	Connection	Spring-type terminals 0.2...2.5 mm <sup>2</sup> rigid/flexible
	Cable	2-wire, NYM..., up to 350 m
	Use	SMI actuators, SMI (230 V) or SMI Lo-Vo (see list)
	Participant	Up to 16 SMI motors
	Functions	128 SMI functions for BACnet I/O objects (128 channels) for up to 16 single and group addresses each
RS-485 (COM module)	Communication protocol	Modbus/RTU and Modbus/ASCII Master as per V1.02 2-wire (2W)
	Bus physics	1 unit load (unit load = UL); electrically isolated; integrated RS-485 network resistors (LT, PU, PD) configurable via software
	Bus speed	600...115,200 bit/s Parity bit, stop bit, Rx/Tx bus timing
	Connection	Pluggable spring-type terminals 2 × 5-pin 0.2...1.5 mm <sup>2</sup> rigid/flexible
	Cable <sup>3)</sup>	3-/4-wire (D+/D-/COM reference), twisted, shielded, up to 1000 m
	Use	Integration of Modbus slaves in an RS-485 segment (line)
	Participant	Up to 31 RS-485 unit loads (UL)
	Functions	600 Modbus channels for BACnet I/O/V objects for up to 247 Modbus devices; FC01-06, 15, 16, 22; unicast and broadcast; access optimisation
<b>Construction</b>		
	Fitting	DIN rail 35 × 7.5/15 EN 50022 Rail housing DIN 43880
<b>Standards and directives</b>		
	Type of protection	IP00 (EN 60529), connections and terminals IP30 (EN 60529), front in DIN cut-out IP30 (EN 60529), with accessory terminal cover

<sup>3)</sup> Example cable CAT-5, J-Y(ST)Y, RS-485 bus cable (e.g. Belden 9842)



	Energy class <sup>4)</sup>	I to VIII = up to 5% as per EU 811/2013, 2010/30/EU, 2009/125/EC
	Environment class	3K3 (IEC 60721)
CE conformity according to	EMC Directive 2014/30/EU	EN 61000-6-1 EN 61000-6-2 EN 61000-6-3 EN 61000-6-4
eu.bac certificate	Energy Performance of Buildings Directive 2010/31/EC	EN 15500
	eu.bac licence	No. 2166

### Overview of types

Type	Features	Dimensions W x H x D	Weight
EY-RC504F001	Room automation station, 8 room segments	105 (6 HP) × 90 × 58 mm	0.22 kg
EY-RC504F101	Room automation station, 8 room segments, moduWeb	105 (6 HP) × 90 × 58 mm	0.22 kg
EY-RC504F011	Room automation station, 8 room segments, KNX interface	105 (6 HP) × 90 × 58 mm	0.24 kg
EY-RC504F021	Room automation station, 8 room segments, DALI interface with bus power supply	105 (6 HP) × 90 × 58 mm	0.245 kg
EY-RC504F041	Room automation station, 8 room segments, SMI interface	105 (6 HP) × 90 × 58 mm	0.24 kg
EY-RC504F0C1	Room automation station, 8 room segments, RS-485 interface for Modbus	105 (6 HP) × 90 × 58 mm	0.243 kg
EY-RC505F031	Room automation station, 8 room segments, KNX interface, DALI interface with bus power supply	210 (12 HP) × 90 × 58 mm	0.385 kg
EY-RC505F051	Room automation station, 8 room segments, SMI interface, DALI interface with bus power supply	210 (12 HP) × 90 × 58 mm	0.41 kg
EY-RC505F061	Room automation station, 8 room segments, KNX interface, SMI interface	210 (12 HP) × 90 × 58 mm	0.385 kg
EY-RC505F071	Room automation station, 8 room segments, KNX interface, SMI interface, DALI interface with bus power supply	210 (12 HP) × 90 × 58 mm	0.42 kg
EY-RC505F081	Room automation station, 8 room segments, 2 DALI interfaces with a bus power supply each	210 (12 HP) × 90 × 58 mm	0.41 kg
EY-RC505F091	Room automation station, 8 room segments, 2 SMI interfaces, DALI interface with bus power supply	210 (12 HP) × 90 × 58 mm	0.43 kg
EY-RC505F0A1	Room automation station, 8 room segments, KNX interface, 2 DALI interfaces with a bus power supply each	210 (12 HP) × 90 × 58 mm	0.42 kg
EY-RC505F0B1	Room automation station, 8 room segments, 2 SMI interfaces	210 (12 HP) × 90 × 58 mm	0.4 kg

<sup>4)</sup> When the room automation station is being used as a temperature controller, most temperature controller classes can be fulfilled according to EU Directive 2010/30/EU, Regulation 811/2013. For information on the exact temperature class reached, please refer to the system integrator's user program

💡 DALI interface with bus power supply (116 mA)

### Accessories

Type	Description
0940240001	ecos504 terminal cover (2 pcs)
0450573001	Transformer 230 V~/24 V~ 42 VA; for 35 mm DIN rail (EN 50022)
EY-PS021F011	Power supply module 230 V~ / 24 V=, 1 A; 3 HP DIN rail mounting
EY-PS021F021	Power supply module 230 V~ / 24 V=, 2 A; 4 HP DIN rail mounting
EY-PS021F041	Power supply module 230 V~ / 24 V=, 4 A; 5 HP DIN rail mounting
EY-EM580F001	Bi-directional EnOcean wireless interface ecoMod580
EY-RU 1**	ecoUnit 1 room operating units with EnOcean wireless technology (via EY-EM580F001 wireless interface)
EY-RU 3**	ecoUnit 3 room operating units (apart from EY-RU 38*)
EY-EM 51*	Remote ecoLink I/O modules
EY-EM 52*	Remote ecoLink I/O modules

💡 1 HP = one horizontal pitch with 17.5 mm

# SAUTER modulo 5 room operating units

SAUTER's ecoUnit room operating unit combines technology with design. The buttons can be freely assigned with various functions. Due to the standard internal dimensions of 55 x 55 mm, these devices fit both SAUTER frames and common frames of third-party manufacturers of light switches.

## Overview of room operating units



Type designation	EY-RU310F001	EY-RU311F001	EY-RU314F001	EY-RU316F001
Product name	ecoUnit310	ecoUnit311	ecoUnit314	ecoUnit316
Function	Temperature sensor	Temperature sensor, setpoint correction	Temperature sensor, setpoint correction, occupancy, fan	Temperature sensor, setpoint correction, occupancy, fan, lighting/window blind
For stations	ecos 5, ecos311	ecos 5, ecos311	ecos 5, ecos311	ecos 5, ecos311
Interface	RS-485	RS-485	RS-485	RS-485
Display	–	–	–	–
Temperature sensor	•	•	•	•
Button functions	–	–	2	4
Fan speeds	–	–	AUTO-0-1-2-3	AUTO-0-1-2-3
Setpoint correction	–	Rotary knob	Rotary knob	Rotary knob
Room occupancy	–	–	3 modes	3 modes
Further information	Page 63	Page 63	Page 63	Page 63



Type designation	EY-RU365F0**	EY-RU355F***	EY-SU358F081	EY-SU106F100
Product name	ecoUnit365	ecoUnit355	ecoUnit358	ecoUnit106
Function	Temperature sensor, 12 setpoints with 4 functions (temperature, lights, blinds and fans)	Temperature sensor, setpoint correction, occupancy, fan	Push-button unit	Push-button unit
For stations	ecos 5	ecos 5	For connection to ecoUnit355 room operating units	For connection to ecoUnit1** room operating units
Interface	SLC/RS-485	SLC/RS-485	–	–
Display	3.5" TFT colour display	LCD	–	–
Temperature sensor	•	•	–	–
Button functions	12 on 6 x 6 tiles	5	2, 4, 8	6
Fan speeds	•	AUTO-0-1-2-3	–	–
Setpoint correction	Digitally adjustable	Digitally adjustable	–	–
Room occupancy	•	3 modes	–	–
Further information	Page 65	Page 68	Page 72	Page 71



Type designation	EY-RU110F100	EY-RU141F100	EY-RU144F100	EY-RU146F100
Product name	ecoUnit110	ecoUnit141	ecoUnit144	ecoUnit146
Function	Temperature sensor	Temperature sensor, setpoint correction	Temperature sensor, setpoint correction, occupancy, fan	Temperature sensor, setpoint correction, occupancy, fan, lighting/window blind
For stations	With ecoMod580 for: ecos 5	With ecoMod580 for: ecos 5	With ecoMod580 for: ecos 5	With ecoMod580 for: ecos 5
Interface	EnOcean wireless	EnOcean wireless	EnOcean wireless	EnOcean wireless
Display	–	LCD	LCD	LCD
Temperature sensor	•	•	•	•
Button functions	–	2	4	6
Fan speeds	–	–	AUTO-0-1-2-3	AUTO-0-1-2-3
Setpoint correction	–	Digitally adjustable	Digitally adjustable	Digitally adjustable
Room occupancy	–	–	3 modes	3 modes
Further information	Page 74	Page 74	Page 74	Page 74

## EY-RU 310...316: Room operating unit, ecoUnit310...316



EY-RU316F001



EY-RU310F001

### Features

- Part of the SAUTER EY-modulo 5 system family
- Room operating unit for eco500, 502, 504, 505
- Can be extended with EY-SU 306 push-button unit
- Operating unit to control and guarantee the highest possible room comfort
- Temperature measurement and setpoint adjustment
- Device insert with transparent front, fits into frame with 55 x 55 mm aperture
- Frame can be ordered as an accessory
- Room climate can be adapted individually
- Operating mode can be set for room occupancy and actuation of a 3-speed fan
- Control of window blinds, windows and lighting (ON/OFF/dim)
- Multicolour LED indicators for visualisation of local energy consumption
- Room operating unit with a wide range of functions, designs and colours

### Technical data

#### Power supply

Power supply	From automation station
Current consumption	≤ 25 mA
	≤ 38 mA with 2 × EY-SU306

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Parameters

Sensors	Measuring range	0...40 °C
	Resolution	0.1 K
	Time constant	Approx. 7 minutes
Functionality	Setpoint correction	Variable
	Room occupancy (presence)	3 modes, LED indicator
	Fan speeds	5 functions, LED indicator
	Position LED	Switchable: green/red/OFF

#### Interfaces and communication

Connection to automation station	Activation	ecos 5, modu521
	Interface	RS-485
	Protocol	SLC
	Line	4-wire, twisted, shielded
	Cable length <sup>1)</sup>	≤ 100 m (30 m) with bus termination
	Connection terminals	Pluggable; for wire of 0.12...0.5 mm <sup>2</sup> (Ø 0.4...0.8 mm)

#### Construction

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

#### Standards and directives

Type of protection	IP30 (EN 60529)
--------------------	-----------------

<sup>1)</sup> Max. 30 m for industrial applications as per EN 61000-6-2



	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

### Overview of types

Type	Features	Buttons _ =dummy button, PRA=presence
EY-RU310F001	NTC sensor	-
EY-RU311F001	Operating unit, NTC sensor, dXs setpoint correction (rotary knob)	-
EY-RU314F001	Operating unit, NTC sensor, dXs setpoint correction (rotary knob), fan, occupancy	2
EY-RU316F001	Operating unit, NTC sensor, dXs setpoint correction (rotary knob), fan, occupancy, window blinds / light	4

### Accessories

#### Operating unit

Type	Description
EY-SU306F001	Push-button unit, without frame

#### Fitting

Type	Description
0940240***	Frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.056
0949360004	Plug-in connectors ecoUnit, 2-pin, "01/02", "03/04" (2 x 10 pcs.)
0949241301	Transparent cover for EY-RU 310 (10 pcs.)
0949241302	RAL 9010 white cover for EY-RU 310 (10 pcs.)



EY-RU365F001

## EY-RU 365: Touch room operating unit, ecoUnit365

### Features

- Part of the SAUTER EY-modulo 5 system family
- High quality room operating unit with touch operation and tile display
- 3.5" TFT colour display, 320x240 pixels
- Scratch-resistant, capacitive touch interface
- Navigation of up to 6 pages with up to 6 functions (tiles) each
- Intuitive operation for 4 predefined functions (temperature, lights, blinds and fans)
- Up to 12 setpoints can be defined as a reference for BACnet objects
- Display of the energy efficiency function ("ECO 10")
- Mode and symbol displays, e.g. heating/cooling
- Audio feedback when pressed
- 24 V~/= power supply
- SLC/RS-485 communicative interface for ecos 5
- Can be located up to 500 m from the automation station
- 6 digital inputs for connecting presence detector, door/window contacts, digital contact directly
- Configuration with CASE Suite (CASE Engine "EY-RU365 module configuration", RU\_TOUCH module)
- Optional: Bluetooth 4.0 LE for using a BT app on a smartphone

### Technical data

#### Power supply

Power supply	24 V~/=, ±20% - SELV 0 / 50/60 Hz
	or from EY-PS 021 of the ecos
Power consumption during operation	< 2.6 W

#### Ambient conditions

Operation	Operating temperature	0...45 °C
	Admissible ambient humidity	10...85% rh, no condensation
Transport	Admissible ambient humidity	< 85% rh, no condensation
	Storage and transport temperature	-25...70 °C

#### Parameters

Setpoint	Up to 12 setpoint entries, configurable	
Symbol	Up to 6 symbols: room mode - comfort/reduced/set-back; ECO mode - green-yellow-red; heating/cooling; windows; humidity; wind; alarm; block	
Number of functions	Up to 6 pages Up to 6 tiles per page	
Tile function	Temperature, fan, light dimming, light switching, control of window blinds (position/angle)	
Special functions	°C/°F changeover for temperature function; Home button; Navigation display; (Title) labelling for pages, tiles and functions	
Screensaver display	None, Time or Actual Temperature	
Temperature sensors	Type of sensor	NTC 10kΩ
	Measuring range	0...40 °C
	Resolution	0.1 K
	Updating interval	1 s
	Drift	< 0.1 °C/year
	Position	Bottom left



Inputs	Number of inputs	6
	Type of inputs	For potential-free switching contacts
	Polling voltage	24 V= unregulated
	Polling current	>3 mA (closed contact)
	Internal resistance	> 4.7 kOhm
	Refresh interval input	20 ms
	Switching thresholds	<10 V (voltage "rising") > 6 V (voltage "falling")
	Switching hysteresis	>1 V
Audible feedback	Type	Piezoelectric signal
	Application	Audio feedback when touch function is executed
Display with backlight	Screen diagonal	3.5 inches (8.9 cm)
	Resolution	320 x 240 pixels
	Refresh interval display	60 Hz
	Type	TFT
	Number of colours	262,000
	Brightness	500 cd/m <sup>2</sup>
	Contrast ratio	300
	Perspective	From above: 15° From below: 35° From left/right: 45°
Touchpad	Touchpad type	Capacitive with gesture recognition
	Refresh rate	10 ms
Light sensor	Type of sensor	Phototransistor with integrated filter
	Measuring range	0...5000 lux
	Resolution	Typ. 10 lux
	Position sensor	In the middle above the display
	Refresh rate	100 ms

### Interfaces and communication

Connection terminals	SLC/RS-485, DI, power supply	2 x 6-pin screw terminals, pluggable, for solid or braided wires, max. 1.5 mm <sup>2</sup> (grid dimension 5 mm)
Communication	Activation	From ecos 5
	Interface	RS-485 with 115kbit/s (no integrated terminating resistor)
	Protocol	SLC (SAUTER Local Communication)
	Cable	2-wire twisted, shielded (D+, D-); MM terminal is reference for RS-485; shielded at controller
	Cable length	≤ 500 m with bus termination
	Protection circuit	Protected against excess voltage and reversed polarity
	Wireless	Bluetooth specification
Module		Panasonic PAN1740
Number of app participants		1 simultaneously 256 registered
Supported OS Bluetooth app		iOS 8.0 or higher Android 4.1 (Jelly Bean) or higher

### Construction

Device dimensions	Fitting	Recessed mounting
	Dimensions W x H	Glass front: 86 x 86 mm <sup>2</sup> Plastic housing: 85 x 85 mm <sup>2</sup>
	Surface depth T	Max. 15 mm
	Recessed depth T (recessed junction box)	Min. 34 mm (incl. terminals)
	Compatible recessed junction boxes	Swiss and European recessed junction boxes



Housing	Colour	FO* 1:White (similar to RAL 9010) FO* 2:Black (similar to RAL 9005)
Weight	Weight	FO* 1:0.190 kg FO* 2:0.200 kg
Glass front	Glass type	Float glass, chemically hardened soda-lime glass
	Glass thickness	2.9 mm
	Surface hardness	6 H

#### Standards and directives

	Software class	A (EN60730)
	Plastic fire classification	UL94V2
	Type of protection	IP30 (EN 60529)
	Protection class	III (EN 60730)
	Environment class	3K3 (IEC 60721)
CE conformity according to	EMC Directive 2014/30/EU	EN 50491-5-2, EN 50491-5-3
	Wireless (Bluetooth)	ETSI EN 300 328 v1.8.1
	RED Directive as per 2014/53/EU	ETSI EN 301 489-1 v1.9.2 ETSI EN 301 489-17 v2.1.1
EU regulation	RoHS Directive 2011/65/EU	EN 50581
	Reach conformity	1907/2006
	WEEE	2012/19/EU

#### Overview of types

Type	Title
EY-RU365F001	ecoUnit365, white, touch, NTC, 6DI
EY-RU365F002	ecoUnit365, white, touch, NTC, 6DI, Bluetooth
EY-RU365FOA1	ecoUnit365, black, touch, NTC, 6DI
EY-RU365FOA2	ecoUnit365, black, touch, NTC, 6DI, Bluetooth

#### Accessories

Type	Description
EY-PS021F***	Power supply EY-PS 021

## EY-RU 355: Room operating unit, ecoUnit355

### Features

- Part of the SAUTER EY-modulo system family
- Room operating unit for ecos311, 500, 502, 504, 505 and ASV2
- Local, intuitive operation for temperature, fan and occupancy
- Large backlit (BL) display for status information on the room condition
- Ergonomic push-buttons with mechanical, tactile feedback
- Individual adjustment of the room climate via temperature detection and setpoint adjustment
- Operating mode can be set for room occupancy and actuation of a 3-speed fan
- ECO button for resetting to automatic mode
- Multicolour LED indicator for visualisation of energy consumption or as position LED
- Sturdy surface of front cover
- Fits into standard frame with 55 x 55 mm aperture
- Individually labelled buttons as accessories
- Expandable with EY-SU 358 switching unit for operating lights, window blinds etc.
- Frame can be ordered as an accessory
- Room operating unit with various functions, designs and colours



EY-RU355F051

### Technical data

#### Power supply

Power supply	12...24 V=, ± 20% (with BL) 5 V=, ± 20% (without BL) from ecos 5/ecos311/ASV2: 5 V= from ecos311: 15 V= from EY-PS021: 24 V=
Current consumption	5 V= < 10 mA (without active LCD lighting) 24 V= < 25 mA (with active LCD lighting)

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Parameters

Sensors	Measuring range	0...40 °C
	Resolution	0.1 K
	Time constant	14 min.
	Measuring accuracy	Typ. 1 K in the 15...35 °C range
Functionality	Setpoint correction	Can be set and reset; LCD
	Room occupancy (presence)	3 modes; LCD
	Fan speeds	3 levels, off, automatic; LCD
	Position/energy LED	1; green, red, orange, off; switchable
	Symbols in LCD	Time/date, air quality, heating/cooling, ECO, different units, state symbols (window, dew point, locked), SAUTER logo (can be hidden)

#### Interfaces and communication

Connection to automation station, controller	Activation	ecos 5, ecos311
	Interface	RS-485
	Protocol	SIC
	Cable	4-wire, twisted, shielded



Cable length <sup>1)</sup>	≤ 100 m with bus termination
Connection terminals	Pluggable for wire of 0.12...0.5 mm <sup>2</sup> (Ø 0.4...0.8 mm)

**Construction**

Fitting	Recessed/surface-mounted (see accessories)
Dimensions W x H x D	55 × 55 mm
Weight	0.05 kg
Housing	FOxx: traffic white (similar to RAL 9016) FAxx: jet black (similar to RAL 9005)
Button printing	FOxx: black (similar to RAL 9005) FAxx: white (similar to RAL 9016)

**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 61000-6-2, EN 61000-6-3, EN 61000-6-4

**Overview of types**

Type	Features	Buttons _ = dummy button, PRA = presence	Colour
EY-RU355Fx02	Operating device, LCD, NTC, 0T	No buttons supplied	x=0, traffic white x=A, jet black
EY-RU355Fx21	Operating device, LCD, NTC, 2T	+   -   _   _   _	x=0, traffic white
EY-RU355Fx31	Operating device, LCD, NTC, 3T	+   -   _   _   PRA	x=0, traffic white
EY-RU355Fx32	Operating device, LCD, NTC, 3T	+   -   _   FAN   _	x=0, traffic white
EY-RU355Fx41	Operating device, LCD, NTC, 4T	+   -   _   FAN   PRA	x=0, traffic white
EY-RU355Fx51	Operating device, LCD, NTC, 5T	+   -   ECO   FAN   PRA	x=0, traffic white x=A, jet black
EY-RU355Fx52	Operating device, LCD, NTC, 5T	+   -   UP   DOWN   PRA	x=0, traffic white
EY-RU355Fx53	Operating device, LCD, NTC, 5T	+   -   UP   DOWN   LIGHT	x=0, traffic white
EY-RU355Fx54	Operating device, LCD, NTC, 5T	+   -   ECO   FAN   °C/°F	x=0, traffic white

**Accessories**

Type	Description	Buttons	Colour
EY-SU358Fx21	Push-button unit, ecoUnit358, 2T	2 (dual buttons, dual dummy buttons)	x=0, traffic white x=A, jet black
EY-SU358Fx41	Push-button unit, ecoUnit358, 4T	4 (dual buttons)	x=0, traffic white x=A, jet black
EY-SU358Fx81	Push-button unit, ecoUnit358, 8T	8 (single buttons)	x=0, traffic white x=A, jet black

**Fitting accessories, spare parts**

Type	Description
0940240***	Frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.056
0940240103	Frame, single, recessed, white (RAL9016), 10 pcs.
0940240104	Frame, single, recessed, black (RAL9005), 10 pcs.
0940240703	Mounting plate, single, for recessed fitting (10 pcs.)
0940240203	Frame, double, recessed, white (RAL9016), 10 pcs.

<sup>1)</sup> SLC/RS-485 permits a line length of up to 500 m (decentralised supply)

Type	Description
0940240204	Frame, double, recessed, black (RAL9005), 10 pcs.
0940240802	Mounting plate, double, for recessed fitting (10 pcs.)
0940240302	Frame, single, surface-mounted, white (RAL9016), 10 pcs.
0940240303	Frame, single, surface-mounted, black (RAL9005), 10 pcs.
0940240402	Frame, double, surface-mounted, white (RAL9016), 10 pcs.
0940240403	Frame, double, surface-mounted, black (RAL9005), 10 pcs.
094013****	Buttons as accessories/spares, 10 pcs. (see product data sheet PDS 94.056)
0949360004	Plug-in connectors ecoUnit, 2-pin, "01/02", "03/04" (2 x 10 pcs.)
0940360005	Terminal RU-SU, push-in, @3P (V,C,DQ), 10 pcs. (accessory for EY-SU 358)
0940360007	Terminal RU-SU, screw, @3P (V,C,DQ), 10 pcs. (optional accessory for EY-SU 358)
0940360006	Terminal and cable RU-SU, @3P (V,C,DQ), 15 cm, 10 pcs. (optional accessory for EY-SU 358)
0940360012	Terminal RU, screw, 2x10pcs. @2P (01/02, 03/04) (optional accessory for stranded cable)



EY-SU106F100

## EY-SU 106: Push-button unit for room operating unit with radio technology, ecoUnit 106

### Features

- Part of the SAUTER EY-modulo 5 system family
- Push-button unit to supplement the ecoUnit 1 10 or ecoUnit 1 41...146
- Device insert with transparent front, fits into frame with 55 x 55 mm aperture
- Frame can be ordered as an accessory
- Integrated solar cell for additional power supply for ecoUnit 1
- Control of window blinds and lighting (ON/OFF, dim)
- Six button functions
- Many different design and colour variations

### Technical data

Power supply		
Power supply		From ecoUnit 1
Ambient conditions		
Operating temperature		0...45 °C
Storage and transport temperature		-25...70 °C
Admissible ambient humidity		10...85% rh, no condensation
Parameters		
Connection	Line	4-wire
	Length <sup>1)</sup>	≤ 1 m (for ecoUnit 1)
Construction		
Fitting		Recessed/surface-mounted (see list of accessories)
Dimensions W x H x D		59.5 × 59.5 × 25 mm
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 2014/30/EU	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	Features
EY-SU106F100	Push-button unit with 6 button functions, integrated solar cell

### Accessories

Type	Description
0940240***	Frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.056
0949241301	Transparent cover for EY-RU 310 (10 pcs.)
0949360002	4-pin plug-in connector for connecting ecos room operating unit (10 pcs.)



<sup>1)</sup> See connection diagram

## EY-SU 358: Push-button unit for room operating unit, ecoUnit358

### Features

- Part of the SAUTER EY-modulo system family
- Push-button unit to supplement the ecoUnit355 (EY-RU 355)
- Various designs and colour versions in black and white
- For controlling window blinds and lighting (on/off, dim)
- 2, 4 or 8 button functions
- Labelling insert for individual labelling
- Fits into frame with 55 x 55 mm aperture
- Frame can be ordered as an accessory



EY-SU358F081

### Technical data

#### Power supply

Power supply	From ecoUnit355
Current consumption	≤ 2.5 mA (at 24 V= for ROU) ≤ 3 mA (at 15 V= for ROU) ≤ 8.5 mA (at 5 V= for ROU)

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Parameters

Functionality	Position LED	2; green, red, orange, off; can be connected parallel to EY-RU 355 LED
Connection	Line	3-wire (V, C, DQ)
	Length	≤ 30 m (can be installed remotely from ecoUnit355)
Labelling	Labelling insert	1 to 3, depending on type; Colour: silver (similar to Pantone 877 C)

#### Construction

Fitting	Recessed/surface-mounted (see list of accessories)
Dimensions W x H x D	55 x 55 x 23 mm
Weight	0.04 kg
Buttons	F021: two (dual buttons, dummy buttons) F041: four (dual buttons) F081: eight (single buttons)

#### 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 61000-6-2, EN 61000-6-3, EN 61000-6-4



**Overview of types**

Type	Description	Colour
EY-SU358Fx21	Push-button unit, ecoUnit358, 2T	x=0, traffic white x=A, jet black
EY-SU358Fx41	Push-button unit, ecoUnit358, 4T	x=0, traffic white x=A, jet black
EY-SU358Fx81	Push-button unit, ecoUnit358, 8T	x=0, traffic white x=A, jet black

**Accessories**

Type	Description
0940360005	Terminal RU-SU, push-in, @3P (V,C,DQ), 10 pcs. (accessory for EY-SU 358)
0940360007	Terminal RU-SU, screw, @3P (V,C,DQ), 10 pcs. (optional accessory for EY-SU 358)
0940360006	Terminal and cable RU-SU, @3P (V,C,DQ), 15 cm, 10 pcs. (optional accessory for EY-SU 358)
0940240***	Frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.056
0940240103	Frame, single, recessed, white (RAL9016), 10 pcs.
0940240104	Frame, single, recessed, black (RAL9005), 10 pcs.
0940240703	Single mounting plate (10 pcs.)
0940240203	Frame, double, recessed, white (RAL9016), 10 pcs.
0940240204	Frame, double, recessed, black (RAL9005), 10 pcs.
0940240802	Mounting plate, double, for recessed fitting (10 pcs.)
0940240302	Frame, single, surface-mounted, white (RAL9016), 10 pcs.
0940240303	Frame, single, surface-mounted, black (RAL9005), 10 pcs.
0940240402	Frame, double, surface-mounted, white (RAL9016), 10 pcs.
0940240403	Frame, double, surface-mounted, black (RAL9005), 10 pcs.
0940001501	Blank foil for EY-SU 358, silver, (10 pcs.)
094013****	Buttons as accessories/spares, 10 pcs. (see product data sheet PDS 94.056)

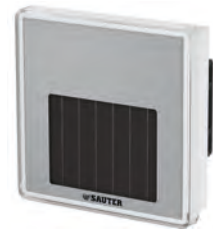
## EY-RU 110...146: Room operating unit with EnOcean wireless technology, ecoUnit 110...146

### Features

- Part of the SAUTER EY-modulo 5 system family
- Room operating unit compatible with EnOcean interfaces of third-party manufacturers
- Battery-free with LCD; EY-SU 106 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
- Frame can be ordered as an accessory
- Room climate can be adapted individually
- Operating mode can be set for room occupancy and actuation of a 3-speed fan
- Control of window blinds, windows and lighting (ON/OFF/dim)
- Room operating unit with a wide range of functions, designs and colours



EYRU146F100



EYRU110F100



### Technical data

#### Power supply

Power supply	From integrated solar panel (battery operation optional)
Illuminance	Min. 250 lux, 5 h
Bridging time without lighting (fully charged devices)	60 h of full operation Additional 60 h in Low Power mode

#### Ambient conditions

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

#### Parameters

Sensors	Measuring range	0...40 °C
	Resolution	0.1 K
	Time constant	Approx. 7 min
	Measuring accuracy, temperature	Typ. 0.5 K in the 15...35 °C range
Functionality	Setpoint correction	Adjustable and resettable
	Room occupancy (presence)	3 modes, LCD
	Fan speeds	5 functions, LCD
	Technology	EnOcean, STM 300
	Transmission frequency	868.3 MHz
	Range	Up to 30 m, depending on building structure

#### Interfaces and communication

Connection <sup>1)</sup>	No wiring required, connection to SLC via EY-EM580 wireless interface
EnOcean Equipment Profile (EEP V2.6.1) <sup>2)</sup>	EEP: D2-00-01 (in bi-directional mode), EEP: A5-10-01 (in uni-directional mode), EEP: F6-03-01 (push-buttons 3, 4, 7...12)

#### Construction

Weight	0.1 kg
Dimensions W x H x D	59.5 × 59.5 × 25 mm
Housing	Pure white (similar to RAL 9010)
Labelling insert	Silver (similar to Pantone 877 C)

<sup>1)</sup> See the ecoMod580 quick reference

<sup>2)</sup> D2-00-01: ecoUnit141...146  
A5-10-01, F6-03-01: ecoUnit110...146





Fitting	Recessed/surface-mounted (see list of 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 61000-6-2, 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 (V1.4.1), EN 300220-1 (V2.1.1), EN 300220-2 (V2.1.2)

**Overview of types**

Type	Features	Buttons _ = dummy button, PRA = presence
EY-RU110F100	NTC sensor	–
EY-RU141F100	Operating unit with LCD, NTC, dXs setpoint correction	2
EY-RU144F100	Operating unit with LCD, NTC, dXs setpoint correction, fan, occupancy	4
EY-RU146F100	Operating unit with LCD, NTC, dXs setpoint correction, fan, occupancy, window blinds/lighting	6

**Accessories****Operating unit**

Type	Description
EY-SU106F100	Push-button unit with solar panel, 6 push-buttons, without frame

**Fitting**

Type	Description
0940240***	Frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.056
0949241301	Transparent cover for EY-RU 310 (10 pcs.)
0949360004	Plug-in connectors ecoUnit, 2-pin, "01/02", "03/04" (2 x 10 pcs.)

**Energy supply in permanently darkened room**

Type	Description
0949570001	Battery pack, 10 pcs.

## EY-EM 580: Wireless interface, ecoMod580

### Features

- Part of the SAUTER EY-modulo 5 system family, bi-directional wireless communication for energy-efficient control of the room
- Interface for SAUTER ecoUnit1 10...146 wireless room operating 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, no condensation

#### Interfaces, wireless communication

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

#### Connection to automation station

Interface	RS-485
Protocol	SLC
Activation	ecos 5
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)
Labelling 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 2014/30/EU	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	Features
EY-EM580F001	Wireless interface, bi-directional, with EnOcean wireless standard



**Accessories**

Type	Description
0940240***	Frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.056
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.)

## Frame for device inserts with 55 × 55 mm fitting dimensions

### Features

- Accessory components for SAUTER device inserts with 55 × 55 mm aperture
- Suitable for ecoUnit 1 room operating units EY-RU 1\*\* and EY-SU 106
- Suitable for ecoUnit 2 room operating units EY-RU2\*\*
- Suitable for ecoUnit 3 room operating units EY-RU 3\*\* and EY-SU 306
- Suitable for EGT 33\* room sensors
- Suitable for viaSens room sensors
- Adhesive plate for smooth surfaces
- Surface and recessed mounting
- Adaptation to the GIRA series: Standard55, E2, Event, Esprit
- Adaptation to the Jung series: LS990, A500, A plus, A Creation, CD500
- Adaptation to the MERTEN series: M-smart, ARTEC, M-Plan, M-ARC
- Adaptation to the Busch-Jaeger series: Future, Future linear
- Adaptation to the Berker series: B.1
- Adaptation to the Feller series: EDIZIOdue



EY-RU 346, EY-SU 306

### Accessories

#### Mounting plate

Type	Description
0940240703	Mounting plate, single, for recessed fitting (10 pcs.)
0940240704	Mounting plate, single, type 2, for recessed fitting (10 pcs.)
0940240802	Mounting plate, double, for recessed fitting (10 pcs.)

#### Frames for recessed mounting

Type	Description
0940240102	Frame, single, pure white, RAL 9010 (10 pcs.)
0940240202	Frame, double, pure white, RAL 9010 (10 pcs.)

#### Frames for surface mounting

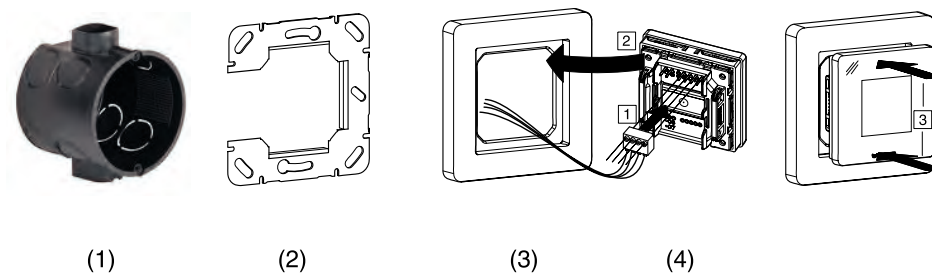
Type	Description
0940240301	Baseplate, single (for wall mounting), 10 pcs.
0940240401	Baseplate, double (for wall mounting), 10 pcs.
0940240501	Cable plate, single (for surface-mounted wiring), 10 pcs.
0940240601	Cable plate, double (for surface-mounted wiring), 10 pcs.
0940240710	Adhesive plate, single, black, 83 × 83 mm, 10 pcs.
0940240711	Adhesive plate, double, black, 83 × 143 mm, 10 pcs.

#### Spacer frames for adapting non-SAUTER frames

Type	Description
0940240751	Spacer frame, 0.5 mm (10 pcs.)
0940240752	Spacer frame, 1.0 mm (10 pcs.)
0940240753	Spacer frame, 1.5 mm (10 pcs.)
0940240755	Spacer frame, F1 (10 pcs.)

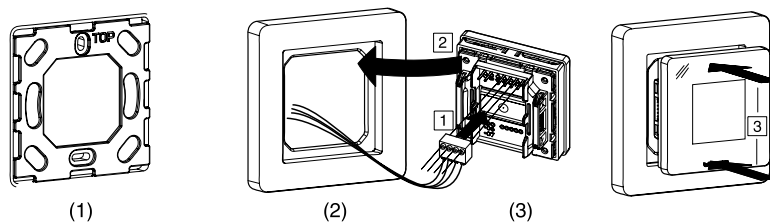


### Recessed mounting with SAUTER frame



- (1) Recessed junction box
- (2) Mounting plate
- (3) Frame
- (4) Device insert

### Surface mounting with SAUTER frame



- (1) Optional cable cover plate
- (2) Baseplate including surface mounting plate
- (3) Device insert

# SAUTER modulo 5 power supply units

Efficient switched-mode power supply units for supplying power to automation stations, I/O modules and field devices in building automation. Optimal for use with SAUTER modulo 5 and modulo 6 system families.

- Variable input voltage
- Output short-circuit-proof
- Flat DIN rail housing for small distribution boxes

## Overview of power supply units



Type designation	EY-PS021F011	EY-PS021F041	EY-PS021F041
Output current with vertical/any fitting position	1.3 / 0.9 A	2.5 / 1.6 A	4.0 / 2.4 A
Current consumption (110/230 V~)	0.7 / 0.4 A	1.4 / 0.6 A	1.6 / 0.9 A
Efficiency	Typ. 82%	Typ. 88%	Typ. 88%
Dimensions W x H x D	54 x 89 x 59 mm	72 x 89 x 59 mm	90 x 89 x 59 mm
Weight	0.17 kg	0.24 kg	0.3 kg
Further information	Page 81	Page 81	Page 81



EY-PS021F011



EY-PS021F021



EY-PS021F041

## EY-PS 021: Power supply unit

### Features

- Optimal for use with SAUTER EY-modulo 5 system family
- Variable input voltage
- Output short-circuit-proof
- Flat DIN rail housing for small distribution boxes

### Technical data

#### Power supply

Power supply	85...264 V~; 44...66 Hz
Start-up current limitation	< 30 A, NTC
Internal input fuse	2 A (slow-blow)
Recommended pre-fuses, LS switch	6 A, 10 A, 16 A, characteristic B, C
Connection	Spring-type terminals 0.5...2.5 mm <sup>2</sup> stiff/flexible

#### Ambient conditions

Operating temperature	-25...55 °C
Derating	-3% / K > 45 °C
Storage and transport temperature	-25...85 °C
Admissible ambient humidity	10...85 % rh, no condensation

#### Output

Output voltage	24 V=, ±2%
Setting range	22.8...26.4 V=
Resistance to reverse feed	30 V=
Overload behaviour	Stabilized current
Ripple factor (nominal load)	Typ. 100 mV <sub>ss</sub>
LED indicator	Green, device ready for operation
Connection	Spring-type terminals 0.5...2.5 mm <sup>2</sup> stiff/flexible

#### Construction

Fitting	DIN rail as per EN 60715, type TH 35 x 7.5/15 DIN rail housing DIN 43880
---------	--

#### Standards and directives

Type of protection	IP00 (EN 60529), connections and terminals IP30 (EN 60529), front in DIN cut-out
Protection class	II (EN 60730-1)

#### CE conformity according to

Low-voltage directive	EN 60950
EMC Directive 2006/95/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

### Overview of types

Type	EY-PS021F011	EY-PS021F021	EY-PS021F041
Output current with vertical/random fitting position	1.3 / 0.9 A	2.5 / 1.6 A	4.0 / 2.4 A
Current consumption (110/230 V~)	0.7 / 0.4 A	1.4 / 0.6 A	1.6 / 0.9 A
Efficiency	Typ. 82%	Typ. 88%	Typ. 88%
Dimensions W x H x D	54 x 89 x 59 mm	72 x 89 x 59 mm	90 x 89 x 59 mm
Weight	0.17 kg	0.24 kg	0.3 kg



# SAUTER modulo 5 remote I/O modules

The SAUTER ecoLink modules are remote modules for flexibly expanding the I/O mix of the ecos500/504/505 room automation stations. The modules are used to capture digital and analogue signals from sensors and HVAC installations. They control valve actuators, dampers, fans, dimmable lamps or sunshade actuators. The remote fitting reduces the wiring needed for the sensors and actuators.

## Overview of remote I/O modules



Type designation	EY-EM510F001	EY-EM511F001	EY-EM512F001
Product name	ecoLink510	ecoLink511	ecoLink512
Power supply	24 V~	24 V~	24 V~
<b>Inputs/outputs</b>			
Universal inputs	–	–	–
0-10 V / digital inputs	4	4	4
Ni1000/Pt100 inputs	2	2	–
DIM-10 V outputs	–	–	–
NO relays	3	–	–
Changeover relay contacts	–	–	–
Triac	3	3	2
Analogue outputs	3	3	3
<b>Further information</b>	Page 84	Page 84	Page 84





Type designation	EY-EM514F001	EY-EM515F001	EY-EM520F001	EY-EM521F001
Product name	ecoLink514	ecoLink515	ecoLink520	ecoLink521
Power supply	24 V~/=	24 V~/=	230 V~	230 V~
<b>Inputs/outputs</b>				
Universal inputs	4	4	–	–
0-10 V/digital inputs	–	–	4	4
Ni1000/Pt1000 inputs	–	–	–	–
DIM-10 V outputs	–	–	2	2
NO relays	4	–	4	2
Changeover relay contacts	–	–	–	–
Triac 24 V=	–	–	–	–
MOS-FET 24 V~/=	6	6	–	–
Analogue outputs	4	4	–	–
<b>Further information</b>	Page 86	Page 86	Page 88	Page 88



Type designation	EY-EM522F001	EY-EM523F001	EY-EM526F001	EY-EM527F001
Product name	ecoLink522	ecoLink523	ecoLink526	ecoLink527
Power supply	230 V~	230 V~	230 V~	230 V~
<b>Inputs/outputs</b>				
Universal inputs	4	4	–	4
0-10 V/digital inputs	–	–	4	–
Ni1000/Pt1000 inputs	–	–	–	–
Digital/meter inputs	–	–	–	4
DIM-10 V outputs	4	4	2	–
NO relays	4	–	–	4
Changeover relay contacts	–	–	3	–
Triac	–	–	–	–
Analogue outputs	4	4	–	–
<b>Further information</b>	Page 92	Page 92	Page 88	Page 90

## EY-EM 510...512: Remote I/O module, ecoLink510...512

### Features

- Part of the SAUTER EY-modulo 5 system family
- Regulation, control, monitoring and optimisation of operational systems, e.g. room automation or HVAC engineering
- Remote I/O module for ecos500, 504, 505
- Communicative connection of actuators to automation stations
- Can be located up to 500 m from automation stations



EY-EM510F001

### Technical data

#### Power supply

Power supply	24 V~, ±20%, 50...60 Hz
Current consumption	≤ 0.2 A, without load current from Triac and relay outputs
Power consumption	≤ 6.6 VA Triac outputs not under load, ≤ 48 VA Triac outputs with rated load
Dissipated power	≤ 5 W (typically approx. 0.5 W)

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/outputs

Analogue/digital inputs	Type	0...10 V/O-I
Ni1000/Pt1000-Eingänge	Type	-20...100 °C
Relay outputs	Type	O-I, normally-open contacts
	Load <sup>1)</sup>	230 V~, 5 A (total max. 10 A)
	Switching frequency	> 3 × 10 <sup>5</sup> cycles
Triac outputs	Type	O-I, 24 V~/0.5 A
Analogue outputs	Type	0...10 V, 2 mA

#### Interfaces and communication

Activation	From ecos500, 504, 505
Interface	RS-485
Protocol	SLC
Cable	4-wire, twisted, shielded
Cable length <sup>2)</sup>	Up to 500 m with bus termination

#### Construction

Dimensions W x H x D	105 × 95 × 60 mm
Weight	0.22 kg

#### Standards and directives

	Type of protection <sup>3)</sup>	IP00 (EN 60529)
	Protection class	II (EN 60730-1) for EY-EM 510, III (EN 60730-1) for EY-EM 511, EY-EM 512
	Environment class	3K3 (IEC 60721)
CE conformity according to	EMC Directive 2014/30/EU <sup>4)</sup>	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
	Low-Voltage Directive 2014/35/EU	EN 60730-1

<sup>1)</sup> See the section "Digital outputs (relays)"

<sup>2)</sup> See the section "Engineering notes"

<sup>3)</sup> IP20 with terminal cover (accessory 0900240020); IP40 at front when fitted

<sup>4)</sup> EN 61000-6-2: In order to meet the European Standard, the power cables for the inputs and outputs must not exceed 30 metres in length



### Overview of types

Type	Description
EY-EM510F001	Remote I/O module, 24 V~, 3 relays, 3 Triacs
EY-EM511F001	Remote I/O module, 24 V~, 3 Triacs
EY-EM512F001	Remote I/O module, 24 V~, 2 Triacs

Overview of I/O mix	EY-EM 510	EY-EM 511	EY-EM 512
Relay	3	0	0
Triac	3	3	2
0...10 V Out	3	3	2
Ni1000/Pt1000	2	2	0
0...10 V In, Digital In	4	4	4

### Accessories

Type	Description
0949360003	Plug-in connector for ecoLink RS-485, 10 pcs.
0900240020	Terminal cover
0450573001	Transformer 230 V~/24 V~ 42 VA; for 35 mm DIN rail (EN 50022)

## EY-EM 514, 515: Remote I/O module, ecoLink514, 515

### Features

- Part of the SAUTER EY-modulo 5 system family
- Remote I/O module for ecos500, 504, 505
- Communicative, digital connection of actuators and sensors to automation stations
- Activation of actuators for heated/chilled ceilings, recirculated air and fan coil units, and window blinds
- Inputs for presence detectors, temperature sensors, analogue sensors and window contacts
- Can be located up to 500 m from automation stations



EY-EM514F001



EY-EM515F001

### Technical data

#### Power supply

Power supply	24 V~, ±20%, 50...60 Hz 24 V=, ±10%
Current consumption	Max. 150 mA Without load current of DO (relay, FET) Plus up to 0.5 A / FET
Dissipated power	Max. 2 W (typically 1.2 W)

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/outputs

Relay outputs	Type	0-1 relay, normally-open contacts
	Load	24...250 V 5 A resistive load Total max. 10 A
	Switching frequency	> 3 × 10 <sup>5</sup> cycles
Semiconductor outputs (FET)	Type	0-1, 24 V~/=, 0.5 A, connected to ground max. peak current 1 A at 20 ms
Analogue outputs	Type	0...10 V/2 mA
Universal inputs	Analogue	0...10 V/0...1 V
	Digital	0-1
	Resistance	100...2500 Ω
	Potentiometer	1...10 kΩ
	Ni1000/Pt1000	-20...100 °C

#### Interfaces and communication

Connection to automation station	Activation	From ecos500, 504, 505
	Interface	RS-485
	Protocol	SLC
	Cable	4-wire, twisted, shielded
	Cable length <sup>1)</sup>	Up to 500 m with bus termination

#### Construction

Dimensions W x H x D	105 × 95 × 60 mm
----------------------	------------------

#### Standards and directives

Type of protection <sup>2)</sup>	IP00 (EN 60529)
Protection class	II (EN 60730-1) for EY-EM 514 III (EN 60730-1) for EY-EM 515
Environment class	3K3 (IEC 60721)

<sup>1)</sup> See the section "Engineering notes"

<sup>2)</sup> IP20 with terminal cover (accessory 0900240020); IP40 at front when fitted



CE conformity according to	EMC Directive 2014/30/EU	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
	Low-Voltage Directive 2014/35/EU	EN 60730-1 (EY-EM 514 only)

### Overview of types

Type	Description	Weight
EY-EM514F001	Remote I/O module, 24 V~/=, 4 relays, 6 DO FET, 4 AO, 4 UI	0.27 kg
EY-EM515F001	Remote I/O module, 24 V~/=, 6 DO FET, 4 AO, 4 UI	0.22 kg

Overview of I/O mix	EY-EM 514	EY-EM 515
Normally-open relay contacts	4	-
Semiconductor FET switch (connected to ground)	6	6
Analogue outputs	4	4
Universal inputs	4	4

### Accessories

Type	Description
0949360003	Plug-in connector for ecoLink RS-485, 10 pcs.
0900240020	Terminal cover
0450573001	Transformer 230 V~/24 V~ 42 VA; for 35 mm DIN rail (EN 50022)
EY-PS021F0**	Power supply, 85...264 V~, 24 V=, ±2% (F011: 1.3 A; F021: 2.5 A; F041: 4.0 A)

## EY-EM 520, 521, 526: Remote I/O module, ecoLink520, 521, 526

### Features

- Part of the SAUTER EY-modulo 5 system family
- Regulation, control, monitoring and optimisation of operational systems, e.g. room automation or HVAC engineering
- Remote I/O module for ecos500, 504, 505
- Communicative connection of actuators to automation stations
- Can be located up to 500 m from automation stations



EY-EM520F001

### Technical data

#### Power supply

Power supply	230 V~, ±10%, 50...60 Hz
Current consumption	≤ 35 mA (typically 20 mA) Without load current of relays
Dissipated power	≤ 8 W (typically approx. 4 W)

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/outputs

Analogue/digital inputs	Type	0...10 V / O-I
DIM-10V outputs	Type	O-I relay, NO contacts 230 V~ with voltage applied
Relay outputs	Load <sup>1)</sup>	230 V~/1 A or 5 A (total max. 10 A)
	Switching frequency	> 3 × 10 <sup>5</sup> cycles

#### Interfaces and communication

Activation	From ecos500, 504, 505
Interface	RS-485
Protocol	SLC
Cable	4-wire, twisted, shielded
Cable length <sup>2)</sup>	Up to 500 m with bus termination

#### Construction

Dimensions W x H x D	105 × 95 × 60 mm
Weight	0.32 kg

#### Standards and directives

CE conformity according to	Type of protection <sup>3)</sup>	IP00 (EN 60529)
	Protection class	I (EN 60730-1) II (EN 60730-1) for EY-EM 526
	Environment class	3K3 (IEC 60721)
	EMC Directive 2014/30/EU <sup>4)</sup>	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
	Low-Voltage Directive 2014/35/EU	EN 60730-1

<sup>1)</sup> See the section "Digital outputs (relays)"

<sup>2)</sup> See the section "Engineering notes"

<sup>3)</sup> IP20 with terminal cover (accessory 0900240020); IP40 at front when fitted

<sup>4)</sup> EN 61000-6-2: In order to meet the European Standard, the power cables for the inputs and outputs must not exceed 30 m in length



**Overview of types**

Type	Description
EY-EM520F001	Remote I/O module, 230 V~, 4 relays, normally-open contacts
EY-EM521F001	Remote I/O module, 230 V~, 2 relays, normally-open contacts
EY-EM526F001	Remote I/O module, 230 V~, 3 relays, changeover contact

Overview of I/O mix	EY-EM 520	EY-EM 521	EY-EM 526
Normally-open relay contacts (with voltage applied)	4	2	0
Changeover relay contacts (potential-free)	0	0	3
DIM-10 V	2	2	2
0...10 V In, Digital In	4	4	4

**Accessories**

Type	Description
0949360003	Plug-in connector for ecoLink RS-485, 10 pcs.
0900240020	Terminal cover

## EY-EM 527: Remote I/O module, ecoLink527

### Features

- Part of the SAUTER EY-modulo 5 system family
- Remote I/O module for ecos500, 504, 505
- Communicative, digital connection of actuators and sensors to automation stations
- Controlling ventilation dampers, motorised windows and blinds
- Inputs for positional feedback, presence detectors, window contacts
- Universal inputs for temperature measurement, 0-10 V signals, potentiometer
- Meter inputs for recording energy pulses up to 10 Hz
- Can be located up to 500 m from automation stations



EY-EM527F001

### Technical data

#### Power supply

Power supply	230 V~, ±10%, 50...60 Hz
Current consumption	Max. 15 mA Without load current of relays
Dissipated power	Max. 2.5 W (typically 1.5 W)

#### Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

#### Inputs/outputs

Relay outputs	Type	0-I relay, normally-open contacts
	Load	24...250 V~ 5 A resistive load Total max. 10 A
	Switching frequency	> 3 × 10 <sup>5</sup> cycles
Universal inputs	Analogue	0...10 V / 0...1 V
	Digital	0-I
	Resistance	100...2500 Ω
	Potentiometer	1...10 kΩ
Digital inputs	Ni1000/Pt1000	-20...100 °C
	Digital	0-I
	Meter	10 Hz (pulse duration 50 ms)

#### Interfaces and communication

Connection to automation station	Activation	From ecos500, 504, 505
	Interface	RS-485
	Protocol	SLC
	Cable	4-wire, twisted, shielded
	Cable length <sup>1)</sup>	Up to 500 m with bus termination

#### Construction

Dimensions W x H x D	105 × 95 × 60 mm
Weight	0.35 kg

#### Standards and directives

Type of protection <sup>2)</sup>	IP00 (EN 60529)
Protection class	II (EN 60730-1)
Environment class	3K3 (IEC 60721)

<sup>1)</sup> See the section "Engineering notes"

<sup>2)</sup> IP20 with terminal cover (accessory 0900240020); IP40 at front when fitted





CE conformity according to	EMC Directive 2014/30/EU	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
	Low-Voltage Directive 2014/35/EU	EN 60730-1

### Overview of types

Type	Description
EY-EM527F001	Remote I/O module, 230 V~, 4 normally-open relay contacts, 4 universal and 4 digital inputs

Overview of I/O mix	EY-EM 527
Normally-open relay contacts	4
Universal inputs	4
Digital inputs / meter inputs (10 Hz)	4

### Accessories

Type	Description
0949360003	Plug-in connector for ecoLink RS-485, 10 pcs.
0900240020	Terminal cover

## EY-EM 522, 523: Remote I/O module, ecoLink522, 523

### Features

- Part of the SAUTER EY-modulo 5 system family
- Remote I/O module for ecos500, 504, 505
- Switching and dimming of up to 4 lamps
- Can be located up to 500 m from the automation station

### Technical data

Power supply		
Power supply		230 V~, ±10%, 50...60 Hz
Current consumption		Max. 20 mA (typically 14 mA) Without load current of relays
Dissipated power		Max. 2.5 W (typically 1.5 W)

Ambient conditions		
Operating temperature		0...45 °C
Storage and transport temperature		-25...70 °C
Admissible ambient humidity		10...85% rh, no condensation

Inputs/outputs		
Relay outputs	Type	0-I relay, normally-open contacts 230 V~ with voltage applied
	Load	230 V~/5 A resistive load Total max. 10 A
	Switching frequency	> 3 × 10 <sup>5</sup> cycles
DIM-10V outputs	Type	1...10 V passive output for electronic ballasts as per EN 60929 Electrically isolated
Analogue outputs	Type	0...10 V / 2 mA
Universal inputs	Analogue	0...10 V / 0...1 V
	Digital	0-I
	Resistance	100...2500 Ω
	Potentiometer	1...10 kΩ
	Ni1000/Pt1000	-20...100 °C

Interfaces and communication		
Connection to automation station	Activation	From ecos500, 504, 505
	Interface	RS-485
	Protocol	SLC
	Line	4-wire, twisted, shielded
	Cable length <sup>1)</sup>	Up to 500 m with bus termination

Construction		
Dimensions W x H x D		105 × 95 × 60 mm
Weight		0.32 kg

Standards and directives		
	Type of protection <sup>2)</sup>	IP00 (EN 60529)
	Protection class	II (EN 60730-1)
	Environment class	3K3 (IEC 60721)
CE conformity according to	EMC Directive 2014/30/EU <sup>3)</sup>	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
	Low-Voltage Directive 2014/35/EU	EN 60730-1

<sup>1)</sup> See the section "Engineering notes"

<sup>2)</sup> IP20 with terminal cover (accessory 0900240020); IP40 at front when fitted

<sup>3)</sup> EN 61000-6-2: In order to meet the European Standard, the power cables for the inputs and outputs must not exceed 30 m in length



EY-EM522F001



EY-EM523F001



**Overview of types**

Type	Description
EY-EM522F001	Remote I/O module, 230 V~, 4 normally-open relay contacts, 4 DIM outputs
EY-EM523F001	Remote I/O module, 230 V~, 4 DIM outputs

Overview of I/O mix	EY-EM 522	EY-EM 523
Normally-open relay contacts (with voltage applied)	4	-
DIM-10V	4	4
Analogue outputs	4	4
Universal inputs	4	4

**Accessories**

Type	Description
0949360003	Plug-in connector for ecoLink RS-485, 10 pcs.
0900240020	Terminal cover

**Systems**

**Components**

**Services**

**Facility Services**

Subject to modification. © 2019 Fr. Sauter AG

**SAUTER – your local partner.**

[www.sauter-controls.com](http://www.sauter-controls.com)

