

## ecos200: DDC intelligent unitary controller

### How energy efficiency is improved

High-performance function modules in the ecos enable energy-optimised room control, guaranteeing that energy consumption is minimised.

### Areas of application

Intelligent unitary control, fan-coil units, control of chilled beams, etc.

### Features

- Part of the SAUTER EY-modulo 2 system family
- Individual adaptation of the indoor climate by means of room operating units in series EY-RU2.. and EYB2..
- Optimisation of energy consumption thanks to occupancy function, window contact monitoring, demand-led fan speed switching and time-dependent setpoint specification.
- Time and calendar function
- Recording of historical data
- Integration into the building management system via novaNet data interface
- Programming/parameterisation via PC with CASE Suite software (based on IEC 61131-3)



T10662

### Technical description

- Voltage supply 230 V~
- System bus: novaNet (2-wire)

### Products

Type	Description
EYE200F001	DDC intelligent unitary controller, 3 relays
EYE200F002	DDC intelligent unitary controller, 4 relays

### Technical data

#### Electrical supply

Power supply	230 V~ ±10%, 50/60 Hz
Power consumption	up to 14 VA, incl. 6 VA external
Dissipated power	up to 14 W

#### Permitted ambient conditions

Operating temperature	0...45 °C
Humidity	up to 85% rh
	No condensation

#### Installation

Weight (kg)	0.7
Dimensions (W x H x D)	178 x 103 x 53


#### Standards, guidelines and directives

Degree of protection	IP 10 (EN 60529)
Protection class	I (EN 60730-1)
Environmental class	IEC 60721 3K3
Conformity to:	
EMC Directive 2004/108/EC	EN 61000-6-1
	EN 61000-6-2 1)
	EN 61000-6-3
	EN 61000-6-4
Low Voltage Directive	
2006/95/EC	EN 60730
Software class	EN 60730-1 Annexe A

#### Additional information

Fitting instructions	MV505907
Material declaration	MD 94.200
Wiring diagram	<a href="#">A10360</a>
Dimension drawing	<a href="#">M10361</a>

#### Inputs

		EYE200F001	EYE200F002
for operating unit	EYB2 . . . , EY-RU2 . . .	1	1
for temperature sensor	Ni1000	1	1
for control contact	On/off	2	2

#### Outputs

		EYE200F001	EYE200F002
Triac switching outputs	0-I-II (24 V~, 1 A)	2	2
Relay switching outputs	Make contact (250 V~, 2 A)	3	3
Relay switching outputs	Make contact (250 V~, 10 A)	0	1
Analogue	0...10 V (load ≥ 1 kΩ)	2	2

1) If it is mandatory to comply with the industrial standard (EN 61000-6-2), the connecting cables for the digital inputs (DI), analogue inputs and outputs (AI/AO) and the counter inputs (CI) must not exceed 30 m in length.

**Engineering notes**

The station is supplied with 230 V~.  
 The unit must be protected against physical contact.  
 The max. output of Ls is 6 VA.  
 The ecos200 intelligent unitary controller can be fitted using a top-hat rail (EN 60715).  
 The earthing terminals are connected to the earth connection (PE). (24 V~ PELV)  
 The plant devices are connected via screw terminals. The following conditions must be met:

Cross-section of conductors	min. 0.8 mm <sup>2</sup> (AWG 18), max. 2.5 mm <sup>2</sup> (AWG 13) in compliance with standards
novaNet	with twisted cable, max. expansion 200 nF / 300 Ω Rating 0.3 nF per device
Digital inputs, counter	Potential-free contacts, opto-couplers, transistors (open collector) Open: > 3.5 V, closed: < 1 V
Digital outputs	250 V~ / 2(2) A to the relay contacts (3-speed fan) 250 V~ / 10(10) A to the relay contact (electric re-heater) 24 V~ / 1 A to the triacs
Analogue outputs	No external voltage! 0...10 V~, < 10 mA

- When the power supply is connected, it is mandatory to connect the protective earth to the terminal provided for this purpose
- Communication cabling must be undertaken correctly, must be separated from cabling carrying power, and must meet the requirements of standards EN 50174-1, EN 50174-2 and EN 50174-3.
- No account has been taken of special standards such as IEC/EN 61508, IEC/EN 61511, IEC/EN 61131-1 and IEC/EN 61131-2 or similar standards.
- Local standards regarding installation, application, access, access authorisations, accident prevention, safety, dismantling and disposal must be observed. Compliance is also required with installation standards EN 50178, 50310, 50110, 50274, 61140 and similar.
- For further information, consult the fitting instructions.

**Important notes**

**Ecos200**

has 128 MFAs and can store 2x 1792 entries in the HDB.

**Time:**

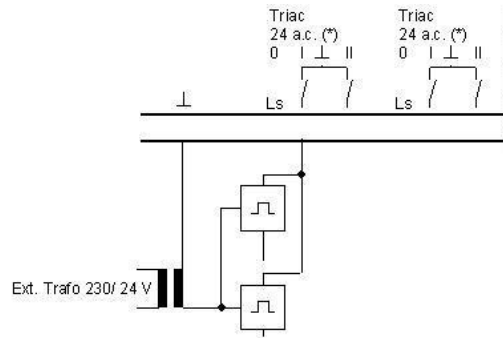
The time freezes in the event of a power failure. The internal clock does not have a back-up, so it is essential that the time is synchronised once per day.

**Sizing the internal transformer**

The internal transformer is designed for a maximum load on all triac outputs of 6 VA.  
 (1 thermal actuator AXT111).

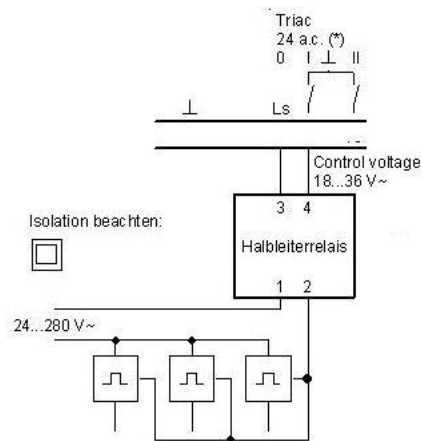
**Parallel operation of several thermal actuators**

Provide for the actuators to be supplied by means of an external transformer. Triac load: max. 1 A



Supply to actuators by means of semiconductor relays. (Number of actuators is limited by the rating of the semiconductor relay). Semiconductor relays can be ordered from stock from SRF.

- Examples:
- 24 to 280 V~, 8 A without heat sink at 230 V~, control voltage 18...36 V~.
  - 24 to 280 V~, 16 A without heat sink at 230 V~, control voltage 18...36 V~.

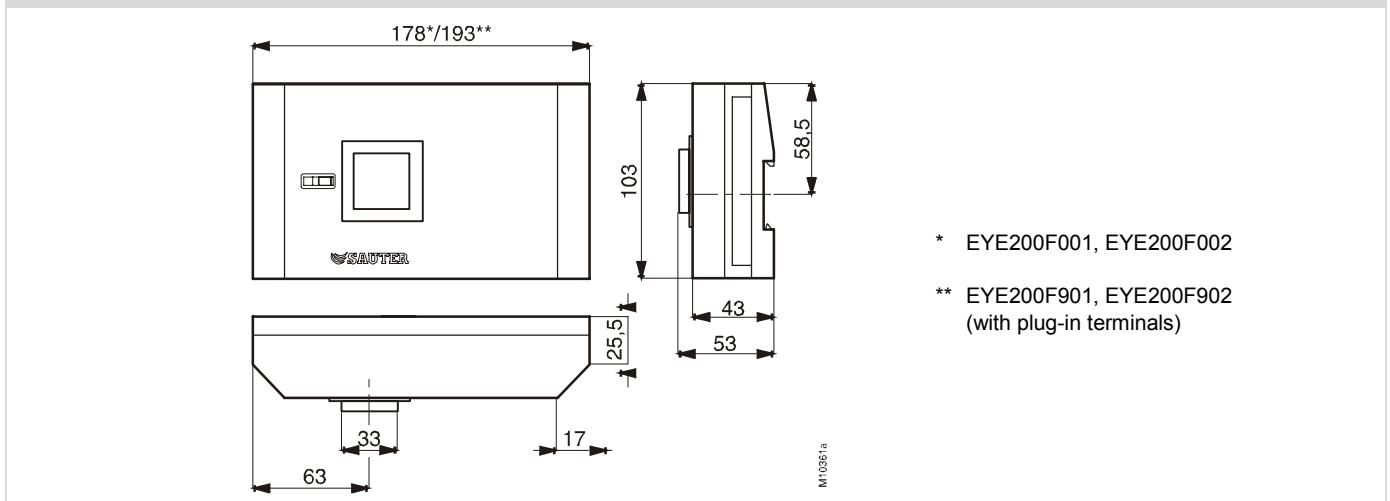


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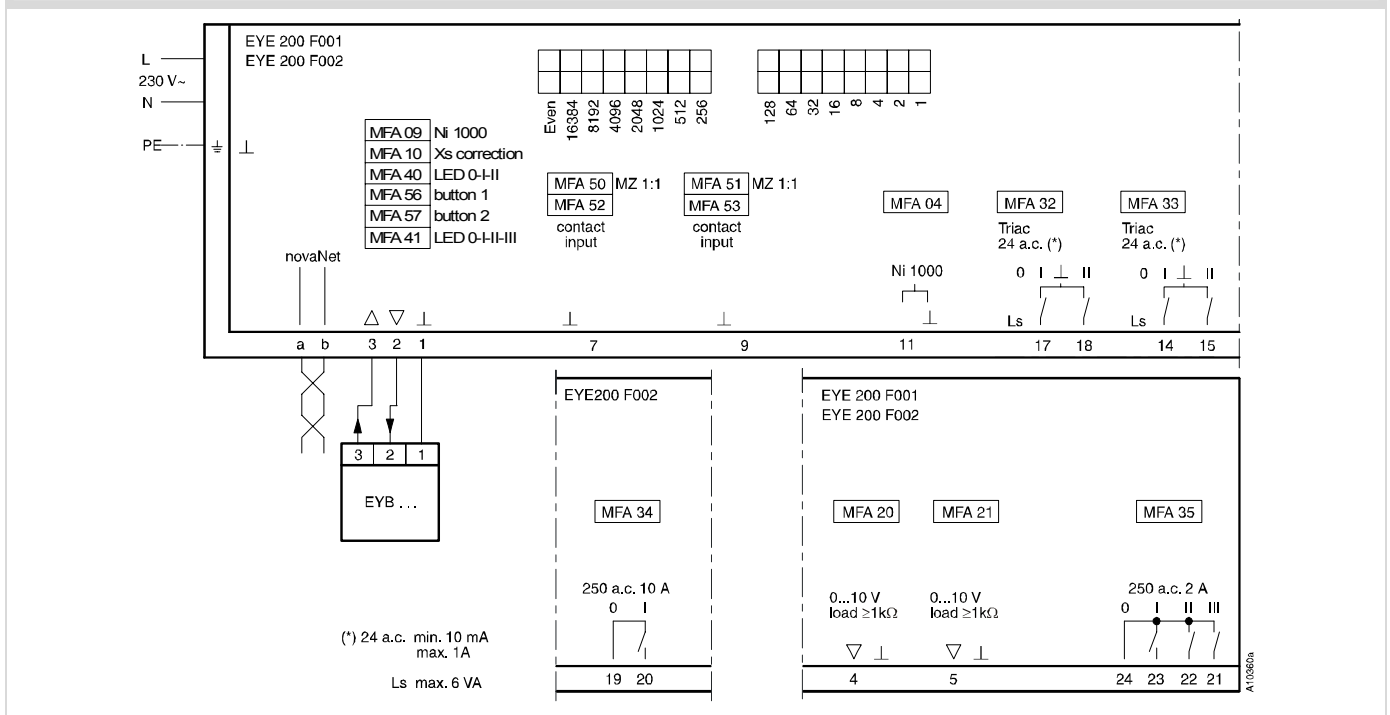
Use of continuous small valve actuators with AXS positioner. The 0...10 V output of the ecos200 can control up to 15 AXS.

MFA	Address type	EYE200F001		EYE200F002	
		HDB	Terminals	HDB	Terminals
04	Temperature measurement, Ni1000 (measuring range: -10...95 °C)	*	11-⊥	*	11-⊥
09	Temperature measurement, Ni1000 (operating unit) (measuring range: -10...95 °C)	*	3-2-⊥	*	3-2-⊥
10	Potentiometer measurement (operating unit)(basic setting: ±2°)	*	3-2-⊥	*	3-2-⊥
20	Analogue output 0 (2)...10 V=	*	4-⊥	*	4-⊥
21	Analogue output 0 (2)...10 V=	*	5-⊥	*	5-⊥
32	Digital output 0-I-II (Triacs 24 V~, 1A)	*	LS-17-18	*	LS-17-18
33	Digital output 0-I-II (Triacs 24 V~, 1A)	*	LS-14-15	*	LS-14-15
34	Digital output 0-I (relay 250 V~, 10A)	-	-	*	19-20
35	Digital output 0-I-II-III (relay 250 V~, 2A)	*	21-22-23-24	*	21-22-23-24
40	Operating feedback, MFA 56 (0-I-II)	*	internal	*	internal
41	Operating feedback, MFA 57-1 (0-I-II-III)	*	internal	*	internal
42	Rotating circuit from MFA 56 0-I-II-0...	*	internal	*	internal
43	Rotating circuit from MFA 57 0-II-II-I-0...	*	internal	*	internal
50	Quantity counter // for MFA 52	*	7-⊥	*	7-⊥
51	Quantity counter // for MFA 53	*	9-⊥	*	9-⊥
52	Contact input	*	7-⊥	*	7-⊥
53	Contact input	*	9-⊥	*	9-⊥
56	Contact input, key 0-I-II (operating unit)	-	3-2-⊥	-	3-2-⊥
57	Contact input, key 0-I-II-III (operating unit)	-	3-2-⊥	-	3-2-⊥

**Dimension drawing**

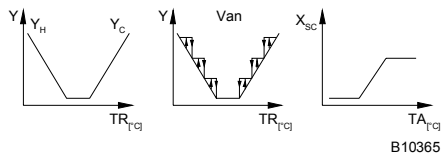
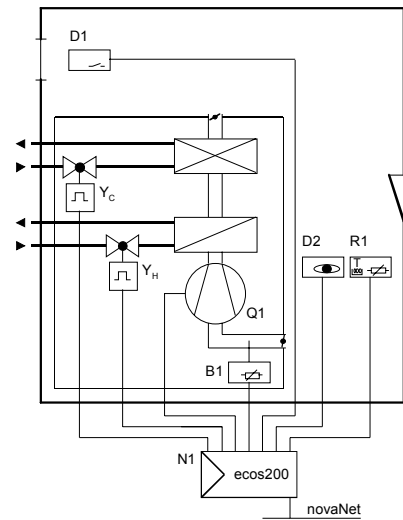


**Wiring diagram**



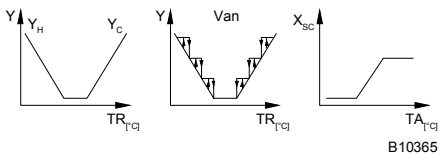
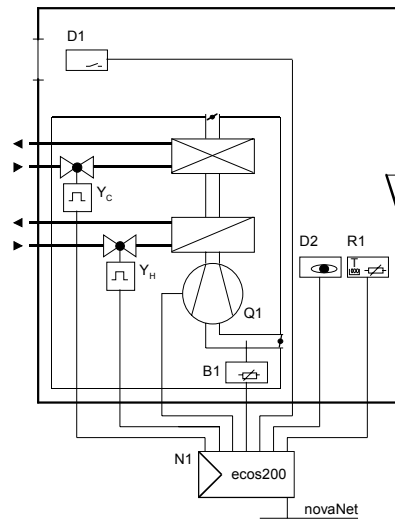
**Wiring examples**

Fan-coil temperature controller with 4-pipe system



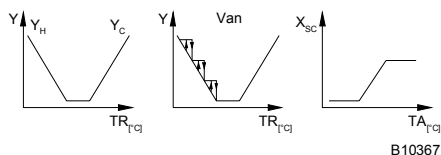
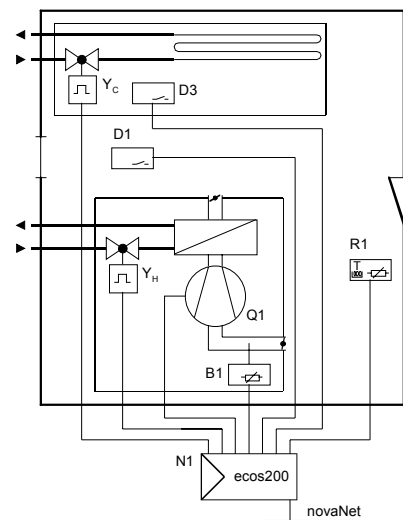
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Fan-coil temperature controller with 4-pipe system  
Heating via radiator



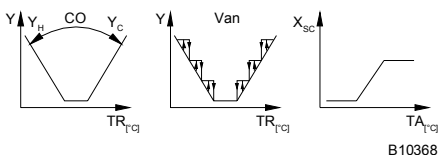
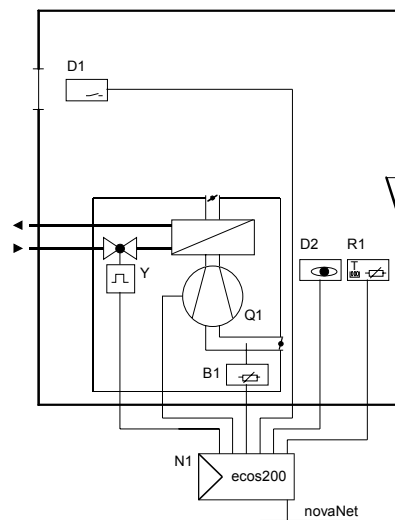
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Control of chilled beams  
Heating via fan-coil



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Fan-coil temperature controller with 2-pipe system  
Heating / cooling via change-over



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Key			
B1	Duct sensor	N1	Controller
D1	Window contact	Q1	Fan
D2	Occupancy detector	R1	Room operating unit
D3	Dew-point monitor	Y	Heating/cooling valve
		Yc	Cooling valve
		Yh	Heating valve