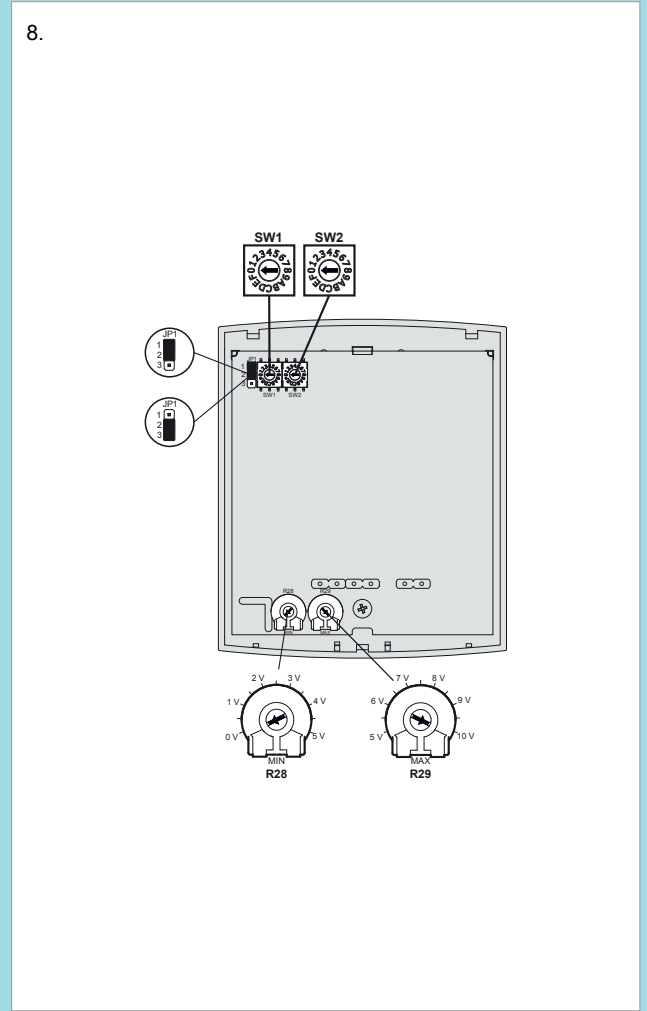
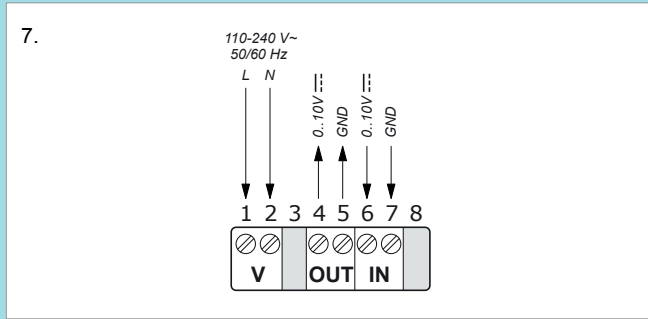
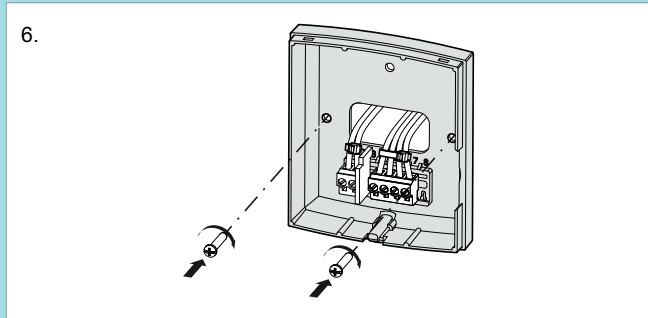
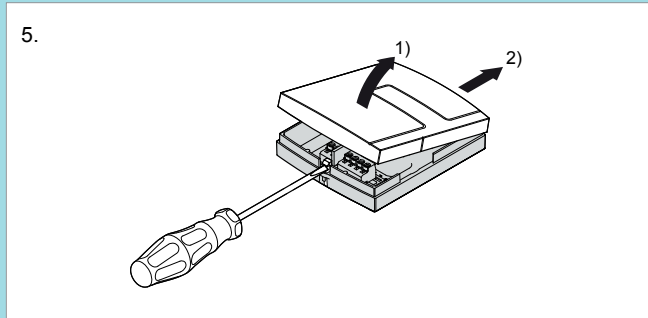
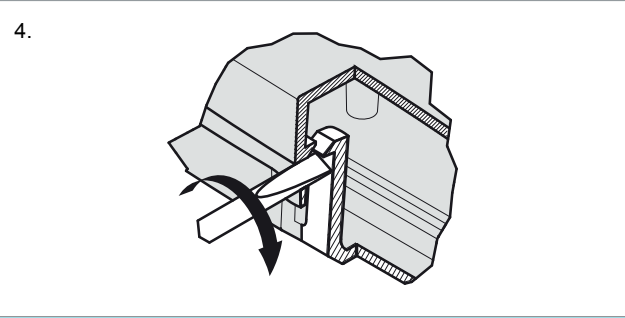
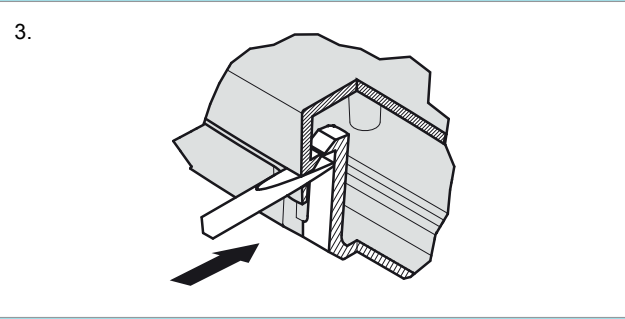
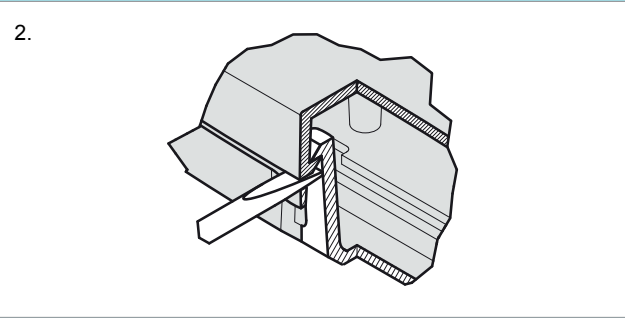
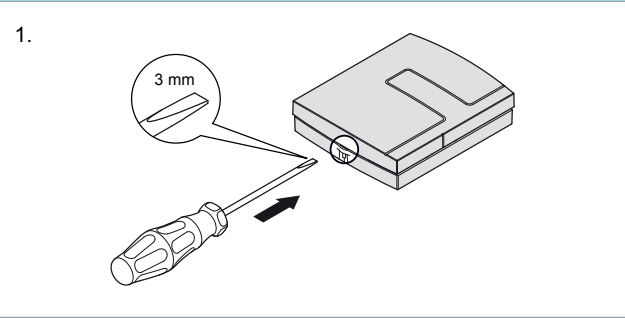




# ALU230A



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## INSTRUCTION ALU230A



Read this instruction before installation and wiring of the product. Subject to change without notice.



Consult documentation in all cases where this symbol is used, in order to find out the nature of the potential hazards and any actions to be taken. All installation, setting or maintenance of this unit must be performed with the supply voltage switched off and without any external loads on the unit! These operations should only be carried out by skilled workers. The manufacturer is not responsible for any damages caused by inadequate skills during installation and/or by any safety devices having been removed or tampered with.

### Universal room controller

ALU230A is a universal room controller that compares a 0...10 V input signal from an external sensor to an adjustable set-point. It controls a 0...10 V output signal with a PI algorithm in direct or reverse action. The output signal is applied to an air handling unit, e.g. a ventilator such as an EC fan or damper.

#### Technical data

Supply voltage	110...240 V AC, 50/60 Hz
Power consumption	Max. 0.46 W
Operating temperature	0...50°C, 10...90 % RH (non-condensing)
Outputs	1 analogue output 0...10 V (max. 1 mA)
Working range	0...100 %
Manual activation	Min. 600 cycles
Automatic activation	> 100 000 cycles
Dimensions (WxHxD)	85 x 100 x 30.5 mm
Installation	*Wall mounting
Impulse voltage	2,5 kV
Pollution degree	2
Classification of unit	Type 1
Protection class	IP30
Insulation class	Class II

\*The unit must be installed exclusively in contact with a wall. Installation with a spacer that would allow access to the back of the unit is forbidden.

### Installation

Place the device in a location that has a temperature representative for the room. A suitable location is approx. 1.6 m above floor level in a place with unobstructed air circulation. To remove the front cover, use a 3 mm flatblade screwdriver to depress the locking tongue in the lower part of the casing (**picture 1**). Press and twist the screwdriver, and at the same time pull the bottom part of the front outwards (**pictures 2-4**). When the bottom end of the front cover is free from the bottom part of the casing, slide the cover towards the top of the casing to free the hooks holding the upper edge of the front cover (**picture 5**). Perform the connections according to electrical wiring diagram. Cables must be fixed using the 2 cable ties supplied as indicated in **picture 6**. Screw the bottom part of the casing to the wall.



#### Disconnection

ALU230A should be connected to a switch or circuit breaker in the building installation. This switch should be in close proximity to the controller and within easy reach of the operator, and should be marked as the disconnecting device for the equipment. Always use the circuit breaker to disconnect the controller from the mains supply during maintenance of the EC fan or damper.

### Settings

The direction of the output signal is set using the JP1 jumper (**picture 8**):

SW1: Setpoint (5...95 %)

SW2: Proportional band (1...300 %)

JP1 closed 1-2: Reverse action

JP1 closed 2-3: Direct action

R28: EC fan min. limit speed

R29: EC fan max. limit speed

The universal setpoint is set using rotary switch **SW1**:

SW1	0	1	2	3	4	5	6	7
Setpoint (%)	5	10	20	25	30	35	40	45

SW1	8	9	A	B	C	D	E	F
Setpoint (%)	50	55	60	65	70	80	90	95

Proportional band and integral time are set using rotary switch **SW2**:

SW2	0	1	2	3	4	5	6	7
P-band (%)	1	1,5	2	3	5	7	10	14
I-time (s)	600	462	356	274	211	163	125	97

SW2	8	9	A	B	C	D	E	F
P-band (%)	21	31	45	66	96	140	205	300
I-time (s)	74	57	44	34	26	20	16	12

The range of the voltage applied to the ventilator is defined using the MIN and MAX knobs. MIN is used to define the minimum applicable voltage to the ventilator (0...5 V), while MAX defines the maximum voltage (5...10 V). The PI controller will then operate between the relevant MIN and MAX values.

#### Example 1:

If the MIN value is set to the minimum position and MAX to the maximum position, the PI controller will work from 0...10 V.

#### Example 2:

If MIN is set to 2 V and MAX is set to 7 V, the PI controller works from 2 to 7 V.

### CE Low Voltage Directive (LVD) standards

This product conforms to the requirements of the European Low Voltage Directive (LVD) 2006/95/EC through product standard EN 60730-1.

### EMC emissions & immunity standards

This product conforms to the requirements of the EMC Directive 2004/108/EC through product standards EN 61000-6-1, EN 61000-6-3, EN60730-1 and EN 60730-2-13.

### RoHS

This product conforms to the Directive 2011/65/EU of the European Parliament and of the Council.

### Contact

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