

AIRTREND Ltd Predstavništvo u Beogradu Kumanovska 14, 11000 Beograd Tel: 011/3836886, 3085740 Faks: 011/3444113 e-mail: gobrid@eunet.rs web: www.airtrend.rs

ROOM CONTROLLER STRA-01

TECHNICAL CATALOGUE AND INSTALLATION



STRA-01 ROOM CONTROLLER



DESCRIPTION

STRA-01 is a room controller intended to control heating and cooling in after treatment systems. Installation is directly on the wall or on an electrical connection box. The controller does not have a communication connection. STRA-01 is suited where you want optimal comfort and low energy consumption, for example offices, schools, hotels, shopping centres, airports and hospitals etc.



KEY FEATURES

- Simple installation thanks to the separate bottom plate
- 3 different operating positions
- Thermal actuators or 0 10 V control
- Inputs for occupancy detector, window contact, condensation detector and change-over function
- Heating and cooling in sequence

PRODUCT CODE EXAMPLE

Room controller STRA-01-00-0-00

APPLICATION EXAMPLES



Note that adapter may be required if another thermal actuator than STRZ-70 is used.



TECHNICAL DATA

Supply voltage	18 - 30 V AC, 50 - 60 Hz
Internal consumption	2.5 VA
Ambient temperature	0 - 50°C
Storage temperature	-20 - +70 °C
Ambient humidity	Max 90% RH
Protection class	IP20
Built-in temperature sensor	NTC type, measuring range, 0 - 50 °C, measurement accuracy ±0.5 °C at 15 - 30 °C
Material casing	Polycarbonate, PC
Weight Colour Cove Bottom plate	110 g Polar white RAL9010 Light grav

Basic setpoint heating, setting with dipswitches. The ON-position is marked on the dipswitch. The cooling setpoint is 2 $^{\circ}$ C higher.

Cabel dimension less than 0.75 mm² shall not be used for connection of components to room controller STRA

INPUTS

Change-over alt. potentialfree contact Occupancy detector

External room sensor

Condensation detector alt. Window contact

OUTPUTS

Forced ventilation Valve actuator alt. themaL actuatoror Valve actuator Thermal actuator Control Exercise Terminal blocks PT1000 sensor, 0 - 50 °C. A suitable sensor is Fläkt Woods STRZ-05.

PT1000-sensor, 0 - 100°C.Suitable sensor is Fläkt Woods STRZ-15.

Closing potential-free contact. A suitable occupancy detector is Fläkt Woods STRZ-09.

Fläkt Woods condensation detector STRZ-16 alt. window contact STRZ-38 resp. potential-free contact

24 V AC actuator, max. 0.5 A 2 outputs

0 - 10 V DC, max. 5 mA 24 V AC, max. 2.0 A Heating or cooling FS = 23 hour intervals Lift-type for max. cable crosssection 2.1 mm²

DISPLAY



DIMENSIONS





CE

This product conforms with the requirements of European EMC standards CENELEC EN 61000-6-1, EN 61000-6-3 and the requirements of European LVD standard IEC 60 730-1. It carries the CE mark.

INSTALLATION INSTRUCTIONS

Ensure that the installation complies with local safety regulations.





Screw the bottom plate onto the wall or connection box, so that the arrows on the bottom plate point upwards. Do not tighten the screws too hard! With surface-mounted cabling, break-out suitable holes from the marks in the plastic.

WIRING DIAGRAMS





CONNECTION DIAGRAM FOR STRA-01 WITH STRZ-05, STRZ-09, STRZ-70 AND CONDENSATION SENSOR STRZ-16



WIRING

Terminal	Designation	Operation			
10	G	Supply voltage 24 V AC			
11	GO	Supply voltage 0 V			
12	D01	For forced ventilation. 24 V AC output, max 0.5 A. 24 V AC actuator is connected between terminal 12 and terminal 20, GDO.			
13 - 14		No function.			
20	GDO	24 V AC out common for DO. Internally connected to terminal 10, G.			
21	GO	0 V common for UO. Internally connected to terminal 11, GO.			
22	U03	No function			
23	UOI	Control of heating (FS) or cooling via changeover For 0 - 10 V DC valve actuator, max 5 mA (FS). The valve actuator's 0 - 10 V control signal terminal is connected to terminal 23 and its supply terminals to terminals 10 and 11. Make sure that the reference pole GO is connected to the correct terminalon the actuator. <i>alternative</i>			
		For 24 V AC thermal actuator, max 2.0 A. The thermal actuator is connected between terminals 23 and 20, GDO. Selection of output function, analogue or digital, see table 3, SW5.			
24	U02	Control output heating or cooling (FS) For 0 - 10 V DC valve actuator, max 5 mA (FS). The valve actuator's 0 - 10 V control signal terminal is connected to terminal 24 and its supply terminals to terminals 10 and 11. Make sure that the reference pole GO is connected to the correct terminalon the actuator.			
		alternative			
		For 24 V AC thermal actuator, max 2.0 A. The thermal actuator is connected between terminals 24 and 20, GDO.			
30	Al1	Selection of output function, analogue or digital, see table 3, SW6 For external room sensor, PT1000. Range 050°C. Sensor is connected between terminals 30 and 41, AGnd. See table 3, SW7.			
31	AI2	Al2 For switching between heating and cooling on a two-pipe system (Change-over). PT1000-sensor is connected between terminals 31 and 41, AGnd. Range: 0 - 100°C. <i>alternative</i> For potential-free contact. A potential-free contact is connected between terminals 31 and 40 + C			
		Occupancy detector A potential-free contact is connected between terminals 32 and 40, +0.			
32	DI1	Closed contact corresponds tooccupancy. See also section Occupancy detector below.			
33	DI2/CI	Fläktwoods condensation detector strz-15 (FS). The sensor is connected between terminals 33 and 41, AGnd.			
		alternative			
		Window contact (DI) A potential-free contact is connected between terminals 33 and 40, +C. Closed contact indicates closed window. See table 3, SW4.			
40	+C	24 V DC out common for DI and UI (with digital function)			
41	AGnd	Analogue ground, reference for AI and UI (with analogue function)			
42 - 43	No function				

Table 1. Wiring

DIP-SWITCHES, SETTINGS

DIP-SWITCHES

There are 7 DIP-switches (SW1 - SW7) on the rear of the electronics cassette, for setting basic functions. Follow tables 2 and 3 below for setting SW1-7. (FS) in the text indicates factory setting.

Basic setpoint, °C	SW1	SW2
10	OFF	OFF
11	OFF	OFF
12	ON	OFF
13 - 14	ON	OFF

Table 2. Basic setpoint, heating. (The cooling setpoint is 2 °C higher.)

DIP-switch	ON	OFF	Comment			
SW3	Stand-by	Occupied (FS)	Preset ope- rating mode			
SW4	DI, window contact. Closed contact indicates closed window.	CI, Fläktwoods condensation detector STRZ-15	Function terminal 33, DI2/CI			
SW5	Digital output for 24 V AC thermal actuator.	Analogue output for 0 - 10 V DC valve actuator (FS).	Function terminal 23, UO1.			
SW6	Digital output for 24 V AC thermal actuator.	Analogue output for 0 - 10 V DC valve actuator (FS).	Function terminal 24, UO2.			
SW7	External sensor, PT1000	Internal sensor, NTC (FS)	Temperature sensor			

Table 3. Other DIP-switches

CONTROL STATE

STRA-01 has control state: Heating and cooling in sequence. The changeover function can be activated, see below.

CHANGE-OVER FUNCTION

STRA-01 has an input for change-over that automatically resets the output UO1 to operate with heating or cooling function. The input can be connected to sensors of type PT1000 and have the sensor mounted so that it senses the temperature on the supply pipe to the coil. When the temperature exceeds 22 °C, the output function is set to heating and when the temperature drops below 18 °C, the output is set to cooling. As an alternative, a potentialfree contact can be used. When the contact is open the controller works with the heating function and when it is closed, with the cooling function. To ensure satisfactory functioning using sensor, the system must have continuous primary circuit circulation.

When the change-over function is not used, the input must be left disconnected.

OPERATING MODE

There are three different operating modes. Switching between these modes is performed locally.

STAND-BY:

Both heating and cooling are disconnected within a temperature interval around the applicable setpoint (heating setpoint value -3 °C, cooling setpoint +3 °C).

OCCUPIED:

The room temperature is controlled according to the applicable cooling setpoint (24 °C) or heating setpoint (22 °C).

BYPASS:

Is controlled by the occupancy detector or other digital contact connected to the controller, closing activates Bypass.

Control of the room temperature in the same way as Occupied mode. Bypass also controls forced ventilation. Reset to

Preset operating mode occurs after 10 minutes of non-occupancy (no signal from presence detector).

PRESET OPERATING MODE

Occupied is the preset operating mode. It can be set to Stand-by with DIP-switch SW3. See table 3 above.

OCCUPANCY DETECTOR

An occupancy detector is connected for local control of the operating mode between Preset operating mode and Bypass.

SETTINGS, CONT.

OPEN WINDOW

Heating and cooling are disconnected.

SETPOINT

Local setpoint displacement (±3°C) set with the knob on the front of the controller. In Occupied mode, the controller operates from a heating setpoint (22 °C), or a cooling setpoint (24 °C) that can be changed locally using the DIP switches and local setpoint displacement. Switching between heating and cooling setpoints is done automatically in the controller depending on the heating and cooling requirement. The controller's control setpoint is the same as the current setpoint plus/minus the local setpoint displacement.

FROST PROTECTION

Independent of the operating mode, the heating control is forced on when the room temperature drops below 8 °C.

Return to normal control occurs automatically when the room temperature exceeds 8 °C.

CONDENSATION DETECTOR

If there is condensation, the cooling control is blocked. Return to normal control occurs automatically when condensation ceases.

INDICATIONS

STRA-01 has an LED shaped like a thermometer on the front. A red indication is shown when heating control is functional and a blue indication when cooling control is active. No LED indication shows that neither heating nor cooling control is active.

EMC EMISSION AND IMMUNITY STANDARD

The product fulfills the demands for the current European EMCstandard CENELEC EN61000-6-1 and EN61000-6-3, and is CEmarked.

LVD, LOW VOLTAGE DIRECTIVE

The product fulfills the demands for the current European LVDstandard IEC 60 730-1.

FläktGroup[®]

WW.FLAKTGROUP.COI

STRA-

EXCELLENCE IN SOLUTIONS

FläktGroup is the European market leader for smart and energy efficient Indoor Air and Critical Air solutions to support every application area. We offer our customers innovative technologies, high quality and outstanding performance supported by more than a century of accumulated industry experience. The widest product range in the market, and strong market presence in 65 countries worldwide, guarantee that we are always by your side, ready to deliver Excellence in Solutions.

PRODUCT FUNCTIONS BY FLÄKTGROUP

Air Treatment | Air Movement | Air Diffusion | Air Distribution | Air Filtration Air Management & ATD's | Air Conditioning & Heating | Controls | Service

» Learn more on www.flaktgroup.com or contact one of our offices