Installation, operating and maintenance

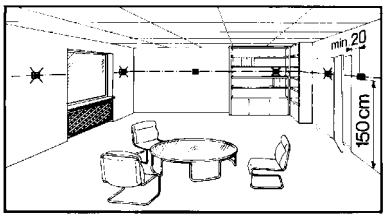
RDF300.02 Remote control + ARG71 Installation plastic box

• • • Providing indoor climate comfort

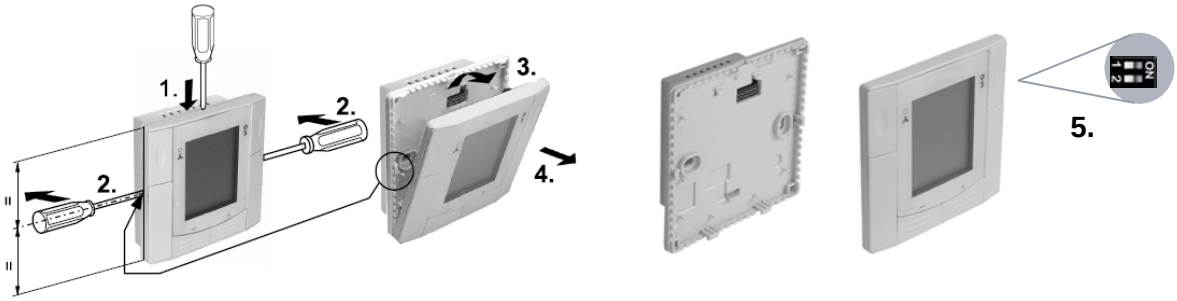
RDF300.02-IOM-0509-E

RDF300...
RDF340...
RDF400...

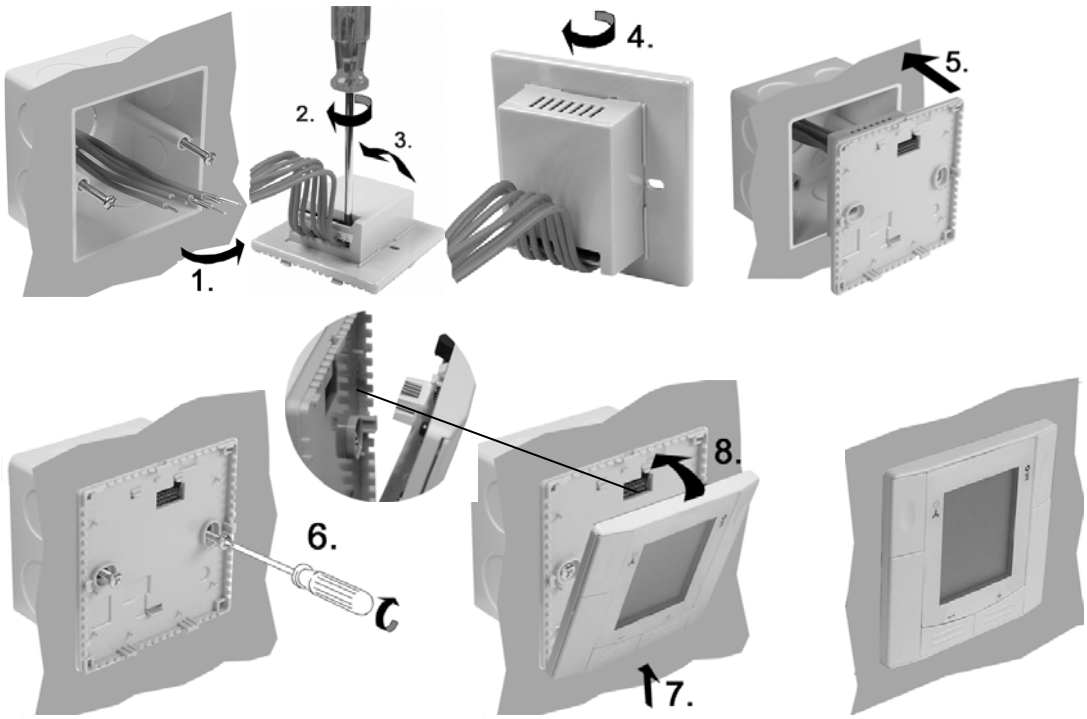
Mounting Location of Thermostat



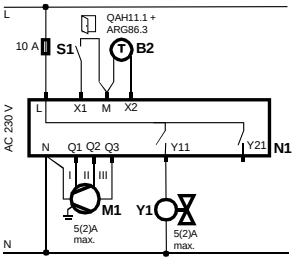
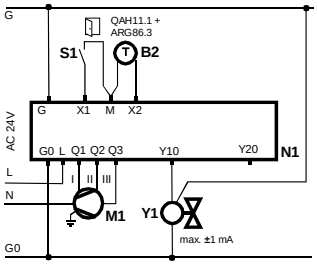
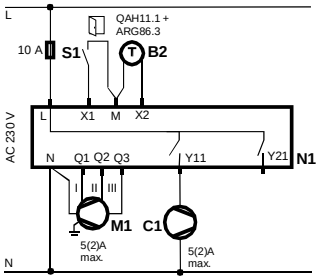
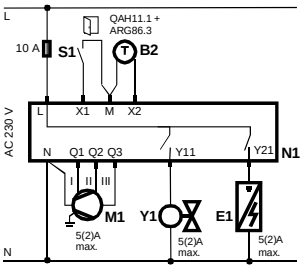
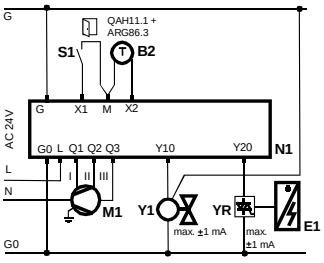
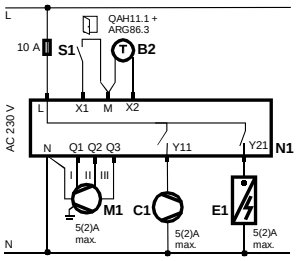
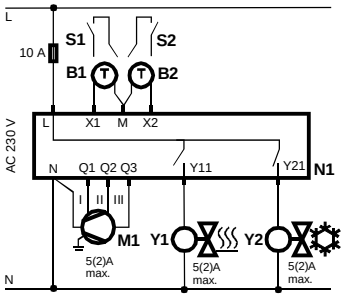
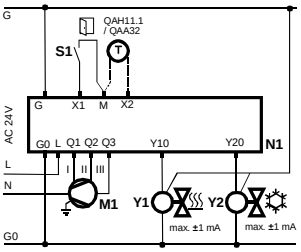
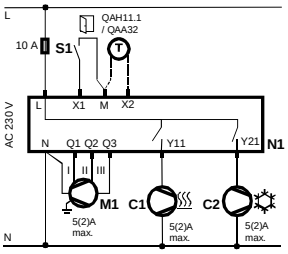
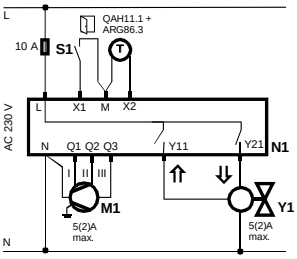
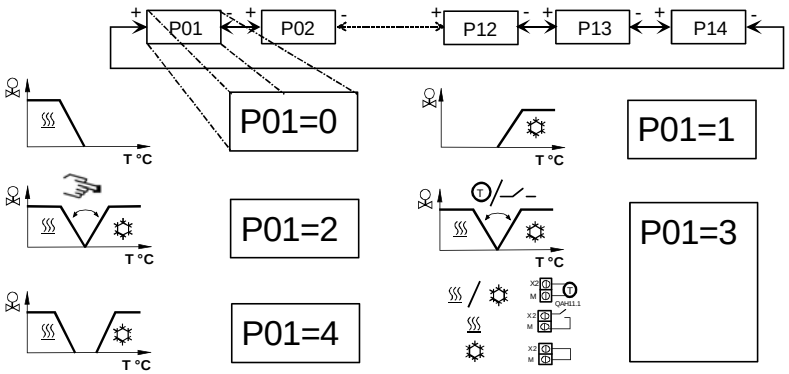
Preparation and Deliverables



Semi-Flush-Mounting



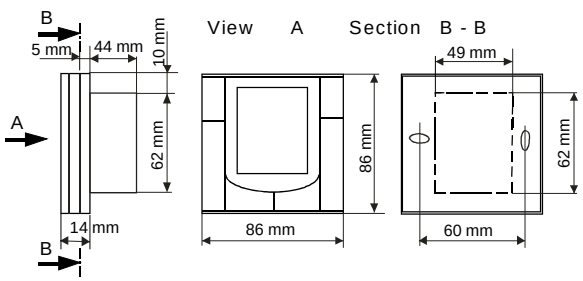
Wiring Diagram

Application	RDF300... / RDF400...	RDF340	RDF300... / RDF400...
en 2-pipe	 **⚠ AC 230 V**	 **G - G0 AC 24 V** **⚠ L - N AC 230 V**	 **⚠ AC 230 V**
en 2-pipe & el. heater	 **⚠ AC 230 V**	 **G - G0 AC 24 V** **⚠ L - N AC 230 V**	 **⚠ AC 230 V**
en 4-pipe	 **⚠ AC 230 V**	 **G - G0 AC 24 V** **⚠ L - N AC 230 V**	 **⚠ AC 230 V**
en 2-pipe, 3 position output	 **⚠ AC 230 V**		

Legend:

N1	RDF3xx / RD
M1	3 Steps-Fan
Y1,Y2	Valve
C1,C2	Compressor
E1	Electro heater
S1	Operating mode switch-over contact (e.g. key card
YR	Current valve
B2	Heat/cool changeover sensor

Dimensions

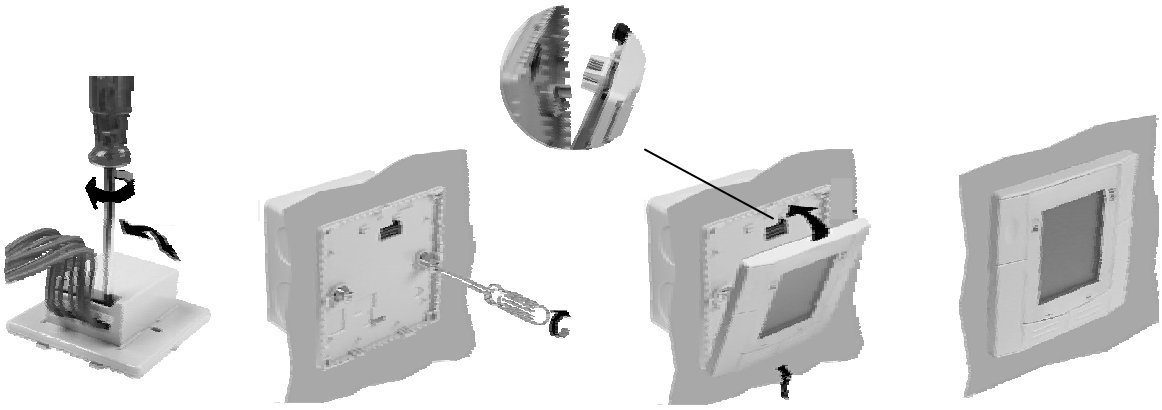


ARG 71 CASES ASSEMBLY INSTRUCTIONS

- Easy installation

Characteristics/functions

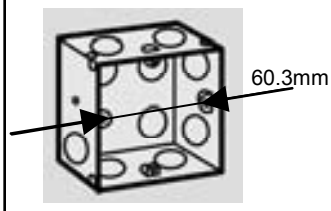
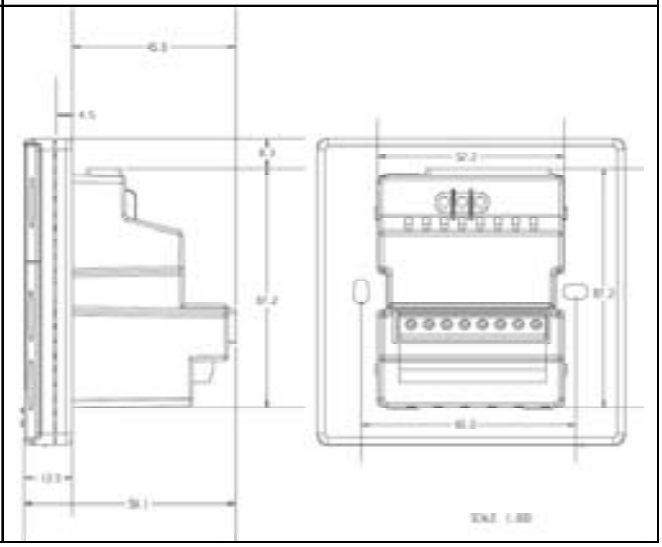
This controller is very easy to install : (1) connexion, (2) assembly and screwing, (3) fitting together of regulation and displaying element without any risk of supplying cable handing.



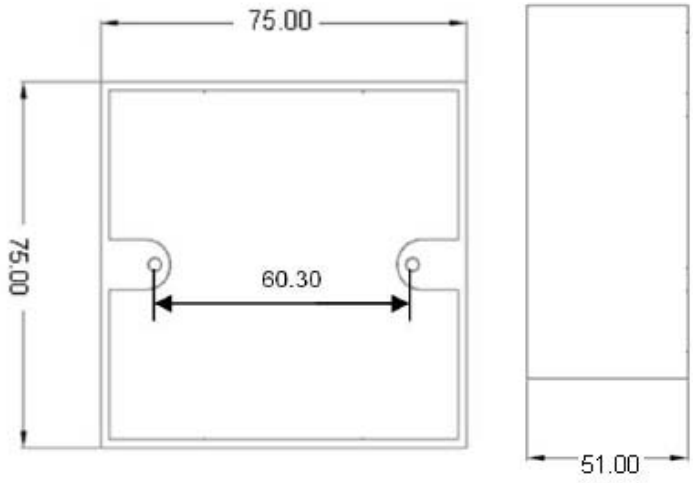
(1) (2) (3)

Important: Please check that controller fits to the case delivered. Controller dimensions (53 mm (L) x 68 mm (H) x 46 mm (P)) request adapted case with a 60.3 mm fixing distance.

Technical data

RDF300 / RDF400: Operating voltage	 AC 230 V +10/-15%, 50/60 Hz
Output rating Heating/cooling (relay) 3-speed fan (relay)	 Max. 5 (2) A Max. 5 (2) A
RDF340: Operating voltage	 AC 24 V +/-20 %, 50/60 Hz
Output rating Heating/cooling (DC 0..10 V) 3-speed fan (relay)	 Max. 1 mA Max. 5 (2) A @ AC 230 V
RDU340: Operating voltage	 AC 24 V +/-20 %, 50/60 Hz
Output rating Heating/cooling (DC 0..10 V) Electric reheater (relay)	 DC 0...10 V, max. 1 mA Max. 5 (2) A @ AC 230 V
Input Multifunctional X1, X2	 NTC cable sensor like QAH11 / switch
Setpoint setting range	5...40 °C in 0.5 °C increments
Control algorithm	2P / PI (P)
Environmental conditions Temperature Relative humidity	 0...50 °C <95%
Mounting type	Semi flush-mount, fixing centers 60.3 mm
Dimension (visible part)	86mm x 86mm x 14 mm
Mounting type	Semi flush-mount for mounting into recessed rectangular conduit box with fixing centers 60.3 mm 
Dimensions	

ARG71 – Installation plastic box for all RDF semi flush-mounted room temperature controllers



Main features:

- Size: 75 mm x 75 mm x 51 mm with fixing centers 60.3 mm
- For installation of all semi flush-mount room temperature controllers
- Conformant to BSI standard BS4662, EN 50086-2-1, IEC/670.

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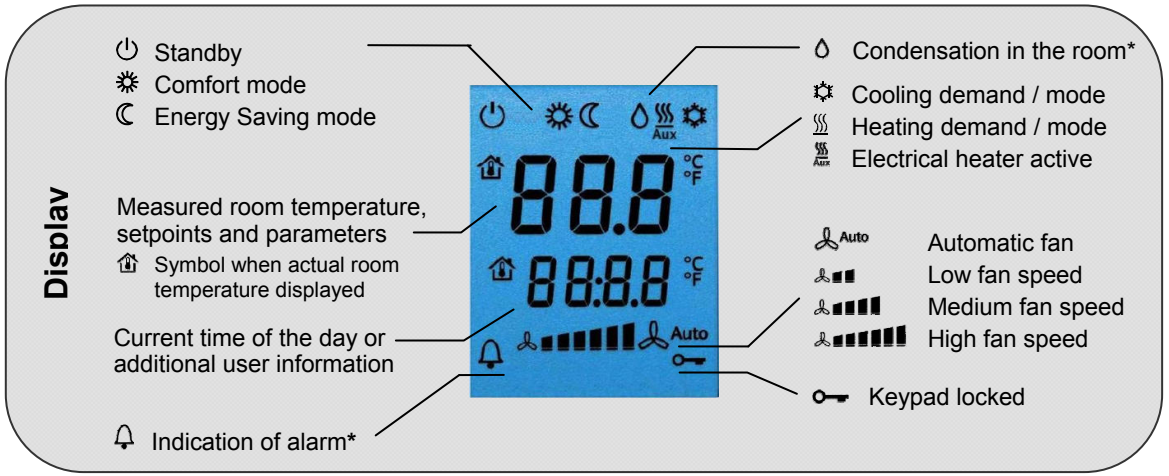
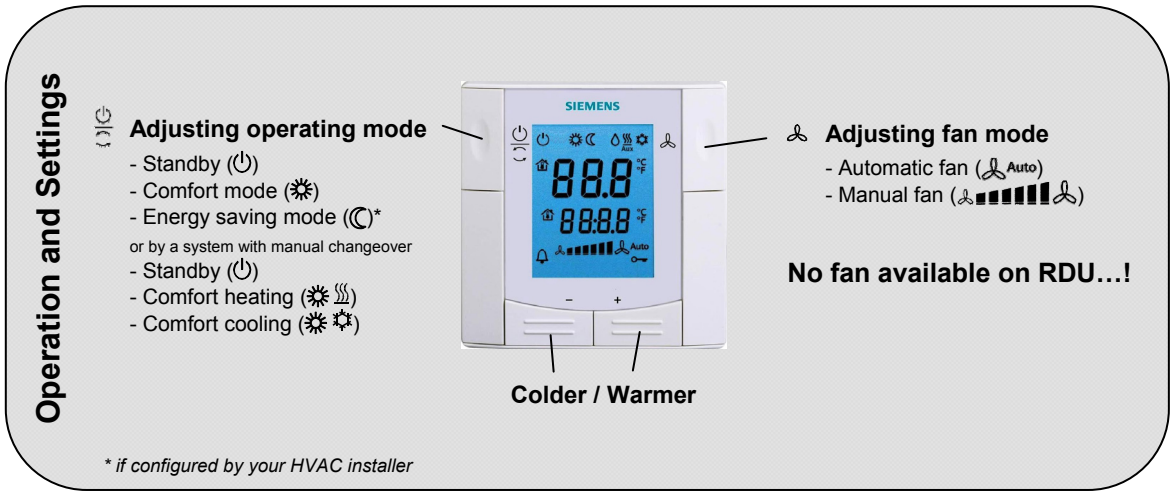
Operating Instructions

RDF300…, RDF340…, RDU340…

RDF/RDU… – the temperature controller that allows you to set the ideal room temperature you want. The controller provides comfort mode, energy saving mode and standby. The fan operates either in automatic mode or at the selected speed when using manual mode. You can either rely on the factory settings or make adjustments that suit your individual needs.





Are your rooms too warm or too cold?

+ -	Pressing **+** or **-** allows you to increase or decrease the current room temperature setpoint for comfort mode. The maximum setting range is from 5...40 °C, unless it is limited by parameters P09 and P10.

Do you want to change from heating to cooling mode?

/	The changeover between cooling and heating is done either *automatically* by a heating / cooling changeover sensor or a remote changeover switch, or *manually* by pressing the operating mode button. If the controller is configured *cooling only* or *heating only,* no changeover is possible (see parameter P01)
	By automatic changeover or continuous heating/cooling:
	Display shows that heating valve is open
	Display shows that cooling valve is open
	By manual changeover:
	Display shows that controller is in heating mode
	Display shows that controller is in cooling mode

Do you want to change the fan mode?

	Press the button until you have selected the desired fan mode.
Auto	In automatic mode, the fan speed is automatically selected by the controller and depends on the setpoint and the actual room temperature. When the room temperature has reached the setpoint, the fan remains in fan speed low (factory setting)
	In manual mode the fan operates independently and always runs at the same speed: Low, medium or high.
	Low fan speed
	Medium fan speed
	High fan speed
	By a single-speed fan, the mode can be changed between Auto and .

Do you want to set your controller to standby?

	Press the operating mode button several times until the display shows the symbol to indicate that standby is selected.
	In standby, only frost protection is active (factory setting = 8˚C), unless your HVAC installer has adjusted the factory settings.
	Changes by installer ☐ Frost protection: ..... ˚C ☐ Heat protection: ..... ˚C

Do you want to change to Energy saving mode?

	The controller can be set in energy saving mode either via pressing the operating mode button if enabled (see parameter P02), or via an external contact such as window switch, key card switch etc.
→ ←	If the external contact is activated the controller changes from comfort mode or standby to energy saving mode. Any operation by the user has no influence.
	In energy saving mode the automatic fan speed is active.
	Note: *If the controller is configured for manual heating / cooling changeover, the Energy saving mode can not be selected via operating mode button.*

Do you want to lock the keypad?

If the keypad lock function is enabled by parameter P14, then pressing 7 seconds on the operating mode button, the keypad will be locked or unlocked respectively.
If "Auto lock" is configured, then the controller will automatically lock the keypad after 30 seconds of the last adjustment.

Reminder clean filter!

FIL This message reminds you to clean the filter on your HVAC equipment. It will appear after ..... "fan operating hours" and disappear when the controller is set to standby. *This reminder must be configured by your HVAC installer.*

Alarm!

This alarm message tells you an external alarm has occurred:

AL1 **AL1 :** .....

AL2 **AL2 :** .....

The alarms are configured by your HVAC installer

Commissioning (by qualified HVAC installer)
To adapt the controller to your system and optimize the control performance, a number of control parameters can be adjusted. This can also be made during operation without opening the controller.

Control sequence

The controller can be used in systems either for *heating only* or *cooling only*, *manually selection of heating or cooling*, or *automatic heating / cooling changeover*. Depending on the selected application, the relevant modes are available and can be adjusted by commissioning parameter P01 if needed. The factory setting for 2-pipe and single duct application is "C*ooling only"*, and for 4 pipe application "Heating and Cooling"

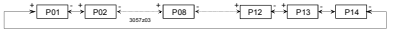
Recalibrating the sensor

If the room temperature displayed by the controller does not agree with the temperature effectively measured, the temperature sensor can be recalibrated. With parameter P05 the temperature can be adjusted by + or – 0.5 °C up to a maximum of + / - 3 °C.

Energy saving mode

If you want to change the factory-set temperature setpoints (15 °C for heating and 30 °C for cooling), the parameter P11 and P12 need to be adjusted.
Important: The setpoint of energy saving mode can be set to **OFF**; this means that the controller is then not active! **Risk of frost,** i.e. no protective heating or cooling function.

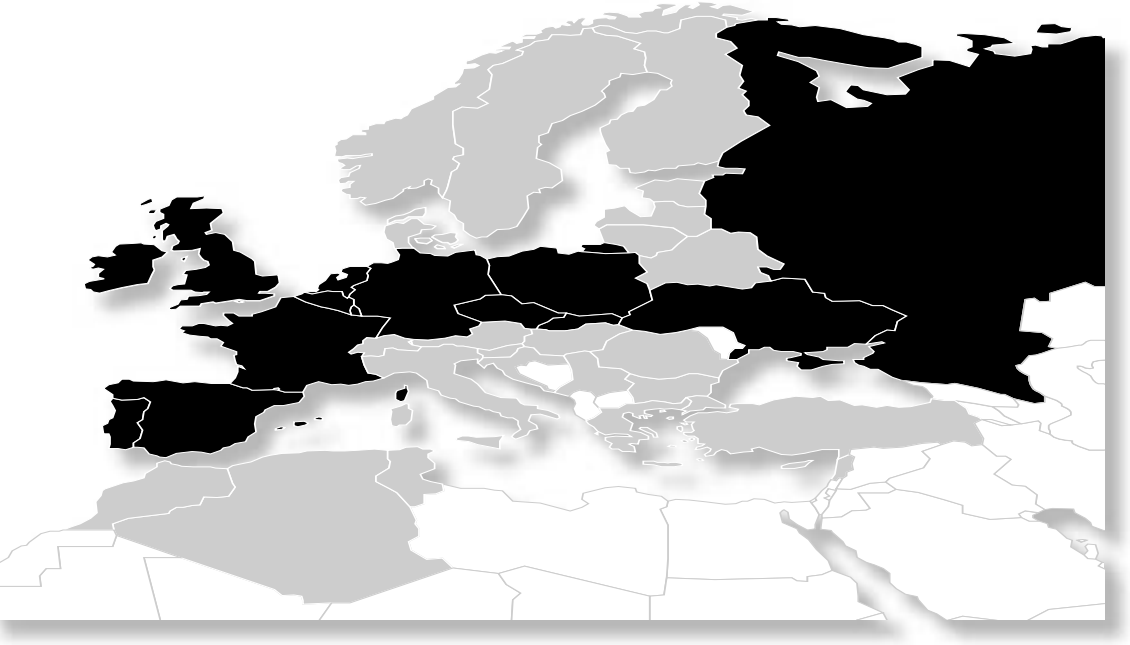
Control parameter
If you want to change the control parameters, proceed as follows:



1. Set the controller to standby
2. **+ / -** Press **-** and **+** simultaneously for a minimum of 3 seconds. Release them and, within 2 seconds, press the **+** again for 3 seconds. The display will show "P01".
3. **+ / -** Select the required parameter by repeatedly pressing the **+** or **–** button.
4. **+ / -** Press **+** and **–** simultaneously, the current value of the selected parameter starts to flash, which can be changed by repeatedly pressing **+** or **-**.
5. **+ / -** By pressing **+** and **-** simultaneously again the next parameter will be displayed.
6. If you wish to display and change additional parameters, repeat steps 3 through 5.
7. 10 seconds after the last display or setting, all changes are stored and the controller will leave parameter enter mode.

Para-meter	Controller's parameter factory settings:		Setting range	RDF3… RDU340.
P01	Control sequence	*2-pipe*…: [0…3] 1 (Cool only) *4-pipe:*. [2…4] 4 (Heat&Cool)	0:= Heating only 1:= Cooling only 2:= Manual H or C 3:= Auto Changeover 4:= Heating & cooling	
P02	Mode selection by user operating mode button	1 (Stb, Comf)	1 = Stb, Comf 2 = Stb, Comf, Eco	
P04	Selection of °C or °F	°C	°C or °F	
P05	Sensor calibration	0.0 K	– 3 ... +3 K	
P06	Standard temperature display	0 (Room temp.)	0:= Room temp 1:= Setpoint	
P07	Additional user info	0 (no display)	0:= no display 1:= Temp in °C + °F	
P08	Comfort basic setpoint	21 °C	5 ... 40 °C	
P09	Minimum setpoint limitation in Comfort ($Wmin_{Comf}$)	5 °C	5 ... 40 °C	
P10	Maximum setpoint limitation in Comfort ($Wmax_{Comf}$)	35 °C	5 ... 40 °C	
P11	Setpoint of heating in Energy Saving ($Wheat_{Eco}$)	15 °C	OFF, 5 °C…$Wcool_{Eco}$	
P12	Setpoint of cooling in Energy Saving	30 °C	OFF, $Wheat_{Eco}$…40°C	
P13	Electrical heater in cooling mode	ON	OFF:= disabled ON:= enabled	
P14	Keypad lock (Pressing 7 seconds on the operating mode button, the keypad will be locked or unlocked respectively)	0 (Disabled)	0:= Disabled 1:= Auto lock 2:= Manual lock	

Please record all changes you make! (all temperature settings can be made in increments of 0.5 K)



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