

INSTALLATION

This appliance is designed for mounting on a 9 module DIN rail.

- Do not couple sensor cables with power cables. Use a two-pole free braid shielded wire with a minimum cross-section area of 1.5 mm² and maximum length of 25 m.
- The appliance must be wired to the electric mains through an omnipolar switch with a contact separation of at least 3 mm in all poles in compliance with the current safety standards.
- Installation and electrical wiring of this appliance must be made by qualified technicians and in compliance with the current standards.
- Before wiring the appliance be sure to turn the mains power off.

WIRING DIAGRAM



TYPE OF SYSTEM

"1 ZONE 8 TUBES"

Sensor S1 controls relays: RL1, RL2, RL3, RL4, RL5, RL6, RL7, RL8.

Sensors S2, S3 and S4 must not be connected.

"2 ZONES 4 TUBES"

Sensor S1 controls RL1, RL2, RL3 and RL4 relays. Sensor S2 controls RL5, RL6, RL7and RL8 relays.

Sensors S3 and S4 must not be connected.

"4 ZONES 2 TUBES"

Sensor S1 controls RL1 and RL2 relays. Sensor S2 controls RL3 and RL4 relays. Sensor S3 controls RL5 and RL6 relays. Sensor S4 controls RL7 and RL8 relays.

Auxiliary relay

This relay is activated when one of the RL1-RL8 relays is set on N.C.

OVERVIEW

This appliance is a microcontroller equipped thermostat with LCD display, in a 9 module DIN-rail case, for controlling up to 8 tubes arranged in 4 zones.

OUTPUTS



Auxiliary relay

The '**RL AUX**' auxiliary relay is activated only when at least one of the other '**RL1-RL8**' relays is in the **N.C.** position; it will switch back to its **N.O.** position only when all other relays are in **N.O.** position.

ELECTRICAL CONNECTIONS

The controller is normally mains powered with 230V \sim at terminals 2 and 3.

The Normally Closed (NC) output of the auxiliary relay is present at terminals 15 and 16, while the Normally Open (NO) one is not available at terminals 16 and 17. This output can be used for driving general loads such as a siren or a flashing light.

The controller features eight (N.O.) relay outputs with voltage-free contacts, thus giving the user greater freedom to select loads with different operating voltages.

The electrical connections of outputs and sensors must be made according to the wiring diagram in Fig. 1 and to the configuration of the first 'TUBE-ZONE' parameter.

TECHNICAL FEATURES

Power supply:	230V~ 50-60Hz
Electrical absorption:	< 10.0 VA
Sensor type:	NTC 10K Ohm @ 25°C
Accuracy:	± 1.0°C
Resolution:	0,1°C
Installer password:	0000 9999 (default: 0000).
Contact rating: zone relay:	8 x 2A 250V~ cosφ=1 (SPST)
auxiliary relay:	1 x 5A 250V~ cosφ=1 (SPDT)
Protection grade: Operating temperature: Storage temperature: Humidity limits: Case: Material: Color:	IP 00 (IP 30 in DIN case) 0°C 40°C -10°C +50°C 20% 80% RH non condensing ABS V0 self-estinguishing Light grey (RAL 7035) 158 x 90 x 71 mm (W x H x D)
Mounting:	On 9 module din rail case

OPERATION

On power on the controller display will show :

Fi	Wa rm	it wa	P	1e :	as nn	e. nn	nn
1	2	3	4	5	6	7	8

where ' $\ensuremath{\mathsf{nnnnn}}$ ' is the number identifying the installed firmware version.

These data are shown on the display for about 3 seconds. After this time the main screen will be displayed (example):



On this screen the temperature read by each sensor is highlighted only for the zones which have been configured as active and are equipped with temperature sensor.

From this screen, you can access other two screens by pressing keys ' \blacktriangleleft ' and ' \blacktriangleright ':

S1 23.0 S2 S3 S4
12345678 П
press ' > '
Mon Lun Don Jue 21/01/16 05:48 Bisplays: • Day of the week • Date • Time
12345678
press '►' ↓
Out/Level: C C E E A A Displays the operating mode of the single tubes.
1 2 3 4 5 6 7 8
Where: C = Adjustment of the zone set on COMFORT E = Adjustment of the zone set on ECONOMY

WA	RNIN	G!

If the relay is activated, the corresponding output letter will flash.

A = Adjustment of the zone set on ANTIFREEZE
- = Adjustment of the zone set on OFF

Switching on and off (functional)

To switch the controller on or off press and hold for 3 seconds the key ' **esc** ' located on the left of the display.

If the controller is in an OFF functional status, the following screen will be displayed :

	OFF		
Press	esc	х	3sec

Setting the working mode of the single zones

SWITCH-ON

From this menu it is possible to set the regulation mode for each active zone that has been previously configured in the installer parameter "Tube-Zone Config.":

'OFF':	Turned off
'ON' (prg):	Turned on as per set time cycle (Default)
'ON' (fix):	Turned on in fix Comfort mode
'A-FREEZE':	Turned on in Antifreeze mode

Ω **S1** 23.0 s2 ---s4 ---**S**3 ---Û press 'esc' Ω Level Zone Setup οk esc Û press 'ok Ŷ Zone and Tubes to be set are highlighted. Zone 1 Tube 1-2 ON(prg) <> ok Ŷ Press ' \blacktriangleleft ' or ' \blacktriangleright ': to select the Zone and the Tube or group level. of Tubes for which you want to change the Û Tube 5-6 <> ok Zone 3 ON (prg) ok Ω Press 'ok' the regulation mode is blinking ٦l 'A' or 'V' to change the regulation mode of Press the selected Zone/Tubes group. Ŷ

Press 'ok' to confirm the change. Û

Zone 3 Tube 5-6 ON(fix) <> ok Ω

Press 'esc' to go back to the upper level. Û

To quit the configuration menu press the 'esc' key again or automatically after 20s of Level Zone Setup ok inactivity.

🗥 WARNING

esc

In the event of faulty sensor, the unit will block the corresponding area. The other areas which are not involved in the fault will continue to function regularly.

SETTING USER PARAMETERS

The functions accessible to the user are limited and do not allow any data configuration which might affect the system performance and management.

To enter the regulation mode of the controller user parameters, proceed as follows:



- Press 'ok' to enter the highlighted submenu.

Configure the data relating to every single parameter, as shown below.

Press 'esc' to guit the user parameter setting.

<u>Set-point Setup</u>: Setting the set-point temperatures for the single zones For each zone (Z1, Z2, Z3, Z4) it is possible to set different set-

point temperatures associated to the Comfort, Economy and Antifreeze regulation modes.

The table below shows in detail the regulation range related to this menu:

SET-POINT TEMPERATURE SETTING		
Data	Regulation Range	Default
COMF.	5.0 45.0 °C	20.0 °C
ECON.	5.0 45.0 °C	17.0 °C
A-FRZ	OFF / -5.0 20.0 °C	5.0 °C



By pressing '◀'or '▶', you loop through the room temperature regulation modes for each zone which has been configured as active in the first installer parameter "Tube-Zone Config.".

Ω



Example of modification of the set-point value related to the Comfort temperature of Zone 1



Change Time/Date: Clock setup (time/date) Change Time/Date $\langle \rangle$ ok esc Û 'ok' press Ω Letters "dd", format for the day, are blinking. dd/mm/yy 27/01/13 hh:mm 12:45 Û press 'ok' dd/mm/yy 27/01/13 hh:mm The two-digit format for the 12:45 day is blinking. Û Use keys ' \blacktriangle ' and ' \triangledown ' to modify the value. Ω dd/mm/yy 30/01/13 The digits for the day are blinking. hh:mm 12:45 Û Press 'ok' to confirm the modified value. Press 'esc' to cancel the change. Ω press the key ' \blacktriangleright ' to move the cursor. Û dd/mm/yy 30/01/13 hh:mm Letters "mm", format for the 12:45 month, are blinking. Ω 'ok press Û dd/mm/yy 30/01/13 hh:mm The digits for the month 12:45 are flashing. Û Use keys ' \blacktriangle ' and ' \blacktriangledown ' to modify the value. Û dd/mm/yy 30/03/13 The digits for the month hh:mm 12:45 are blinking. Û Press 'ok' to confirm the modified value. 'esc' to cancel the change. Press Û Follow the above procedure to set the remaining data for the year (yy), hour (hh) and minutes (mm) . Ω dd/mm/yy 24/03/16 hh:mm 16:10 Û Press the key 'esc' to return to the upper level. ATTENTION The day of the week ('Monday .. Sunday') is calculated automatically based on the set date. Days range Setup: Days range Setup





Programming will be the same from Monday to Friday, while Saturday and Sunday are different and separate separated.

Days Mo----Su

esc

- For each days grouping, the program to be setup shall be the same for all the days of every single group. By varying the days set, the default time cycles are reset. For each days grouping it is possible to setup to a maximum of 5 time overlap
- of 5 time cycles.

	Û					
Press	'ok'	to	confirm	the	modified	value.
Press	`esc′ ↓	to	cancel	the	change.	

ok

Group Lev xy: Time cycles set

The controller allows to preset up to a maximum of 5 time cycles, according to the selected grouping of days.

The factory preset time cycles are shown below:

l st grouping MoSu (Monday Sunday)			
	A-FRZ (Antifreeze)	COMF (Comfort)	ECON (Economy)
a1	00:00 06:00		
a2		06:00 12:30	
a3			12:30 14:00
a4		14:00 18:00	
a5	18:00 24:00		

II ^{na} grouping				
N	loSa (Mon	day Saturda	y)	
	A-FRZ (Antifreeze)	COMF (Comfort)	ECON (Economy)	
a1	00:00 06:00			
a2		06:00 12:30		
a3			12:30 14:00	
a4		14:00 18:00		
а5	18:00 24:00			
Su (Sunday)				
b1	00:00 24:00			

III rd grouping				
	МоFr (Мо	onday Friday)		
	A-FRZ (Antifreeze)	COMF (Comfort)	ECON (Economy)	
a1	00:00 06:00			
a2		06:00 12:30		
a3			12:30 14:00	
a4		14:00 18:00		
a5	18:00 24:00			
	· · ·			
	Sa (Sat	turday)		
b1	00:00 06:00			
b2		06:00 12:30		
b3	12:30 24:00			
Su (Sunday)				
c1	00:00 24:00			

Alternatively, if the time cycles do not represent the desired program, it is possible to change them manually as follows:

Modification of time cycles

NOTE

- You are allowed to change only the ENDING hour of the time cycles as the starting hour has already been fixed (to 00:00 for the first time cycle and to the ENDING hour of the previous time cycle for the other ones).
- For each cycle time, when the ENDING hour exceeds the STARTING hour stored in the following time cycle or even one or more cycles are skipped, the STARTING hour of the following time cycle is automatically changed with the ENDING hour of the previous time cycle.
- If the end of any time cycle is set at 24:00, the programming for that day (or days group) shall automatically end; therefore, the following time cycles will no longer be displayed.
- In the decrement phase, the ENDING hour of the current time cycle is limited by the STARTING hour of the previous time cycle. To modify the hours of the previous time cycle, select the relevant time cycle.

ATTENTION

• Please note that switch-on times are subject to the provisions of law depending on the location where the system is installed.

Setting of such times and the overall swtich-on duration is responsibility of the installer, property manager or single owner of the installation.

Please refer to the City Council's minutes of the Municipality where the system is installed for any further information.

To change time cycles, access the following screen:



For programming, simply follow these steps :

- Press '**≺**' or '**≻**' to select the day or group of days, the regualtion mode and the time cycle.
- Press '**OK**' to enter the modify mode for the selected parameter which starts blinking alternately with the word '**set**'
- Press '▲' or '▼' to change the selected parameter data.
- Press 'OK' again to confirm the modification.

To exit the modify mode without saving the change press the **'esc'** key or wait for 20 sec. without pressing any key.

Press the 'esc' key twice to exit the modify mode without saving the changes only for the parameter of the day or group of days.

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1 Selection of days / group of days





Press '**ok**' to confirm the modified value. To exit the modify mode without saving the modification, press the '**esc**' key or wait for 20 sec. without pressing any key.

2 Regulation mode Selection/ Setting

In order to change the temperature regulation mode of a certain time cycle, first select the relevant time cycle changing hours if necessary and only then modify the regualtion mode.





To exit the modify mode without saving the change, press the **'esc'** key or wait for 20 sec. without pressing any key.

Once the selection of a time cycle is confirmed, to modify the relevant temperature regulation mode proceed as described in point **2**.

Summer T.: Summer time set

You may choose to enable the automatic switch from Daylight Saving Time to Standard Time and back or use the manual mode (Summer Time is disabled).

Changeover dates are set out by the European Community: Summer Time: at 03:00 of the last Sunday of March. Standard Time: at 02:00 of the last Sunday of October.



INSTALLER PARAMETERS SETUP

From the home screen, where the current status of all active zones is displayed, the installer can access all the submenus that allow to change the setting of the available parameters to ensure the proper operation of the controller.

The modification of the installer parameters must be made only by qualified technicians.

Entering password

Littering password	
SWITCH-ON	
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·	
S1 23.0 S2 S3 S4	
12345678	
press ' ok ' and hol ↓	d for 5s
Enter pwd: 0000 esc <> -+ ok	By pressing '◀'or '▶' you loop through single digits. By pressing '▲' or '▼' you set the value of each digit.
↓ Enter the password	'0000'.
$\overline{\mathbb{Q}}$	
press ' ok' ↓	
Tube-Zone Config esc <> ok	By pressing '◀'or '▶'you loop through the submenus. Press 'ok' to access the highlighted submenu
\overline{U}	o domenta.
Off-Set Setup esc <> ok	By pressing '◀'or '▶'you loop through the submenus. Press 'ok' to access the highlighted
<u>ل</u>	Submenu.
Hysteresis Setup esc <> ok	By pressing '◀'or '▶'you loop through the submenus. Press 'ok' to access the highlighted
<u>Û</u>	submenu.
Default Setup esc <> ok	By pressing '◀' or '▶'you loop through the submenus. Press 'ok' to access the highlighted submenus.
\overline{U}	o ubileriub.
Zone Ctrl Setup esc <> ok	By pressing '◀'or '▶'you loop through the submenus. Press 'ok' to access the highlighted submenus.

Password modification

From this screen you can change the password to access the installer configuration menus.

You can access this screen from the home screen:





Û	
press	'ok

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•		The current offset values of
Of1 0.0 Of2 Of3 0.0 Of4	0.0	each sensor (only if actually connected) are shown.

Note:

0f1 :	Offset related to sensor S1.
Of2:	Offset related to sensor S2.
0£3 :	Offset related to sensor S3.
Of4:	Offset related to sensor S4.

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Press ' \checkmark ' or ' \triangleright ': to select the sensor whose offset you want to modify. The selected sensor is blinking.

Press 'ok' to enter the modify mode. $\hfill \ensuremath{\bigcup}$

The sensor whose offset value you are changing starts blinking alternately from 'Off-' to 'set'. To modify the value, use keys ' \blacktriangle ' and ' \triangledown '.

Press 'ok' to confirm the entered value and return to set another sensor.

To exit the modify mode without saving the change, press the <code>'esc'</code> key or wait for 20 sec. without pressing any key. Π

Off-Set S	Setup
esc <>	ok

The regulation range for this menu is outlined in detail in the table below:

SENSOR OFFSET SETUP		
Data	Regulation range	Default
Of1	-5.0 +5.0 °C	0.0 °C
Of2	-5.0 +5.0 °C	0.0 °C
Of3	-5.0 +5.0 °C	0.0 °C
Of4	-5.0 +5.0 °C	0.0 °C

Hysteresis Setup: Hysteresis setup (differential)

The hysteresis or differential is the value gap (in °C) between the switch-on and switch-off set-point temperatures of the controller. The adjustment hysteresis is useful to prevent too frequent on/off switching cycles that could cause damage to the heating system.

The regulation range for this menu is outlined in detail in the table below:

	HYSTERESIS VALUE SETUP	
Data	Regulation Range	Default
hYST.	0.1 +5.0 °C	1.0 °C



↓ Press 'ok' to conf To exit the mod change, press the without pressing a ↓ Hysteresis Setup esc <> ok	Firm. dify mode without saving the ' esc' key or wait for 20 sec. any key.	Zone Control 0 1 1 1 1 1 1 1 Image: Construction of the setting of the s
Default Setup: Factor From this screen you of parameters.	ory default setup can reset the factory default values for all	
Default Setup esc ok	By pressing 'esc' you exit the screen without restoring the data	
↓ press 'ok' ↓		
Set Default ? esc ok	You'll be asked to confirm the selection. By pressing ' esc' you go back to the previous screen	
↓ Press ' ok' to conf ↓	Firm the reset.	
Default Data Restored	Confirmation message of data restoration.	
↓ Wait for 3 sec. ↓		

OFF Press esc x 3sec

Zone Ctrl Setup: Single pipe activation/deactivation Through this screen it is possible to activate or deactivate each of the single relays (RL1...RL8).

The Deafult Data setup will reset all the User settings. After restoring the default data, a new configuration of the controller is required.

The controller is switched off. To switch it on again press and hold 'esc' for 3 seconds.



TROUBLESHOOTING

• Symptom.

The password to access the installer parameters has been forgotten.

Remedy:

Reset the factory default settings following the procedure below:

The Deafult Data setup will reset all the User settings. After restoring the default data, a new configuration of the controller is required.

SWITCH-ON ΰ 23.0 s2 **S**1 s3 ____ S4 ---1 2 3 4 5 6 7 8 Ω Within 30s after switch-on, press and hold keys $^{\prime}\Delta^{\prime}$ + $^{\prime}\nabla^{\prime}.$ Ω By pressing '◀' or '▶'you loop by pressing ' \blacktriangle ' or ' \forall ' you set the value for each digit. Enter pwd: 0000 <> -+ ok esc Ω enter the password '4224'. Ŷ 'ok' press Ŷ Default Data Confirmation message of the Restored data restoration. Ω Wait for 3 sec. Ŷ The controller is switched off. To switch it on again press **'esc'** for 3 seconds. OFF Press esc x 3sec Ω Data will be restored to the factory default values including the installer password whose value is "0000".

• Symptom.

Sensor: Mem/Rtc:	Open	S- ok
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Probable cause:

The sensor 'S-' has not been connected or has not been properly connected or it is open $(R=\infty)$.

Remedy:

Check the sensor connections or replace it with a new one.

• Symptom.

The display shows:

Mem/Rtc: ok	Sensor: Mem/Rtc:	Short	S- ok
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Probable cause:

The sensor 'S-' is in short circuit (R=0).

Remedy: Replace the sensor.

• Symptom.

The display sho	ows:
Sensor:	ok Fault

Probable cause:

The controller has detected a fault in the internal circuit.

Remedy:

Reset the controller.

If the problem persists, please contact the Seitron service centre.

WARRANTY

In the view of a constant development of its products, the manufacturer reserves the right of changing technical data and features without prior notice.

The consumer is guaranteed against any lack of conformity according to the European Directive 1999/44/EC as well as to the manufacturer's document on the warranty policy. The full text of the warranty is available on request from the seller.