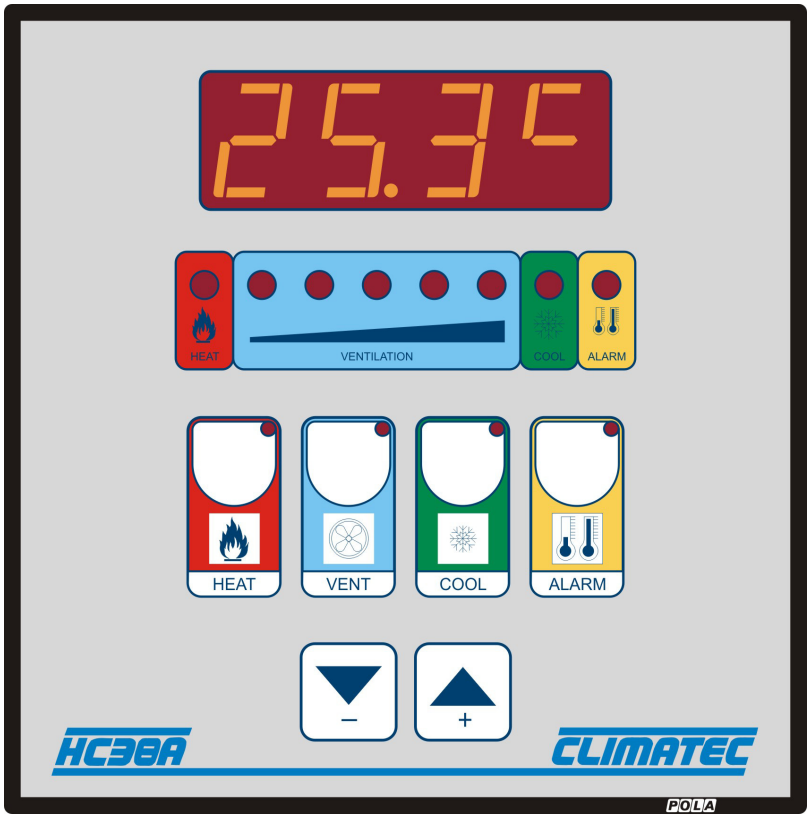
HC38A

SL 6.1

HANDBOOK



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1.1) MAIN SETTING *(Run Mode)*

HEAT TEMPERATURE SETTING
Press **HEAT**, this message will be displayed:
Now set the *heat temperature value*, using **+** or **-** to modify, press **HEAT** to confirm.
Display will now show room temperature.

VENT PARAMETER SETTING
Press **VENT**, this message will be displayed:
Now set *vent starting temperature value*, using **+** or **-** to modify, press **VENT** to confirm.

At this point this message will be displayed:
Now set *minimum vent stage value* (*) (Lock stages on), using **+** or **-** to modify, press **VENT** to confirm.

At this point this message will be displayed:
Now set the *maximum vent stage value* (Lock stages off), using **+** or **-** to modify, press **VENT** to confirm.

(*) If the minimum stage is set to ***0*** or ***SPE-*** (*COSc*) is set to ***1***, this message appears (if minimum stage is set higher than 0 then room temperature is displayed):
Now set *cycle timer on period* (in seconds), using **+** or **-** to modify, press **VENT** to confirm.

At this point, this message will be displayed:
Now set *cycle timer off period* (in seconds), using **+** or **-** to modify, press **VENT** to confirm.

At this point, this message will be displayed:
Now set the *number of stages to cycle,* using **+** or **-** to modify, press **VENT** to confirm.
Display will now show room temperature.

COOL PARAMETER SETTING (**)
Press **COOL**, this message will be displayed:
Now set *cool temperature value*, using **+** or **-** to modify, press **COOL** to confirm.
Display will now show room temperature.

(**) If the Auxiliary Ventilation function is set from ***0*** to ***4*** (see section **2.1** - function ***COL-***), the value shown is the auxiliary fan starting temperature. When you press **+** or **-**, the message ***COL-*** (see right) appears, to show that this setting is in **COSc** (see section **2.1**).

<u>If *COL-* (see section 2.1) is set to 6 this key will not operate.</u>

ALARM PARAMETER SETTING
Press **ALARM**, this message will be displayed:
Now set *min alarm temperature value,* using **+** or **-** to modify, press **ALARM** to confirm.

At this point, this message will be displayed:
Now set *max alarm temperature value*, using **+** or **-** to modify, press **ALARM** to confirm.
Display will now show room temperature.

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1.2) VIEWING TEMPERATURE RECORDING

Press & hold **-** the display will change to show:
followed by the *minimum recorded temperature* (since the reset procedure was last carried out).

Press & hold **+** the display will change to show:
followed by the *maximum recorded temperature* (since the reset procedure was last carried out).

RESET PROCEDURE

The minimum and maximum temperature values recorded are stored permanently in the memory, to reset these values:
Press and hold the **+** key for more than 5 seconds, the display will firstly show the current maximum recorded temperature followed by:

Both the minimum and maximum recorded temperature values have now been reset, to read the current room temperature.

Display will now show current room temperature.

1.3) STATE INDICATOR LAMPS

The lamps situated below the display show the state of the various relays.

1.4) OTHER MESSAGES

This message is displayed when the temperature sensor circuit opens, this could be caused by faulty wiring or damage to the temperature sensor probe or its electrical connections. When this message is displayed an alarm situation occurs.

This message is displayed when the temperature sensor is short circuited, this could be caused by faulty wiring or damage to the temperature sensor probe or its electrical connections. When this message is displayed an alarm situation occurs.

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2.1) COSc PROGRAMMING *(Configuration Constants)*

These settings refer to the mode of operation of the system and must be made on initial start-up.

Press **ALARM**, **-** & **+** together for at least 3 seconds the message ***COSc*** will be displayed:

The *COSc* settings are displayed in sequence if you press **+** to go forward or **-** to go back.
When you reach the setting required (see table below), press **HEAT** and the value will be displayed.
Press **+** or **-** to change the value, as necessary and then **HEAT** to confirm. The next setting will then appear.
You can press **ALARM** at any time to escape programming mode and return to the *Run Mode* (see section **1.1**).

Setting	Default Value	Your Value	Description	Notes
tEnP	0		Temperature representation	***1)**
ProP	4.0		° Ventilation proportional range	***2)**
rEL.2	1.0		°V2 start setting, referenced to t.SEt (when ***ProP***=0)	
rEL.3	1.0		°V3 start setting, referenced to V2 (when ***ProP***=0)	
rEL.4	1.0		°V4 start setting, referenced to V3 (when ***ProP***=0)	
rEL.5	1.0		°V5 start setting, referenced to V4 (when ***ProP***=0)	
rEL.6	1.0		°V6 start setting, referenced to V5 (when ***Prop***=0 AND ***COL-***=6)	
SPE-	0		Cycle timer operation mode	***3)**
COL-	5		Auxiliary ventilation stage number	***4)**
t.vEn	1		Delay (in seconds) for stage increase	
d.HEA	0.2		° heat differential	***5)**
d.COL	0.2		° cool differential	***6)**
A.in1	0.0		° temperature sensor correction (+ or -)	
Opt-1	0		V1 & cycle timer operation mode	***7)**

***1)** **0**= °C temperature representation
1= °F temperature representation
2)** See *Ventilation Action* on page **4**. When ***ProP=0.0 setting ***COL-*** must be ***= 5*** or ***=6*** .
3)** **0**= Cycle timer stops operating when **V1** has switched on due to room temperature being greater than ***t.SEt.
1= Cycle time continues operating when room temp is greater than ***t.SEt***. Use this setting if you need to operate more than 1 stage on cycle timer (e.g. if *SPE-* is greater than 1).
4)** Sets when the cool output is activated (combi control). By using this setting you can reduce the number of ventilation stages operating when the cooling output is activated (if ***COL-=5 the number of stages is NOT reduced). e.g. if ***COL-***=4 the cooling output is activated at stage 4. See auxiliary ventilation diagram in section 2.3.
When ***ProP***=0.0, ***COL-*** must be set at 5 or 6.
***5)** See heat diagram in section 2.3
***6)** See cool diagram in section 2.3
7)** **0**=V1 is overridden by the room temperature being greater than ***t.SEt.
1=V1 is not overridden by the room temperature being greater than ***t.SEt***. V1 will operate based on the ***t.On*** and ***t.oF*** settings regardless of the ventilation control based on temperature.

2.2) PRESET PROGRAMS *(Bootstrap Function)*

To return the processor to the factory default settings listed below and in the table in section 2.1:

Press **HEAT**, **-** & **+** simultaneously for more than 3 seconds, the display will show:

The processor will then reboot, the factory default settings have been programmed. Now you can change the necessary settings for you operational situation.

t.HEA = 21.0° ***t.SEt*** = 25.0° ***SP__*** = 0 ***SP--*** = 5 ***t.On*** = 10” ***t.oF*** = 50” ***t.CoL*** = 30.0° ***AL__*** = 10.0° ***AL--*** = 35.0°

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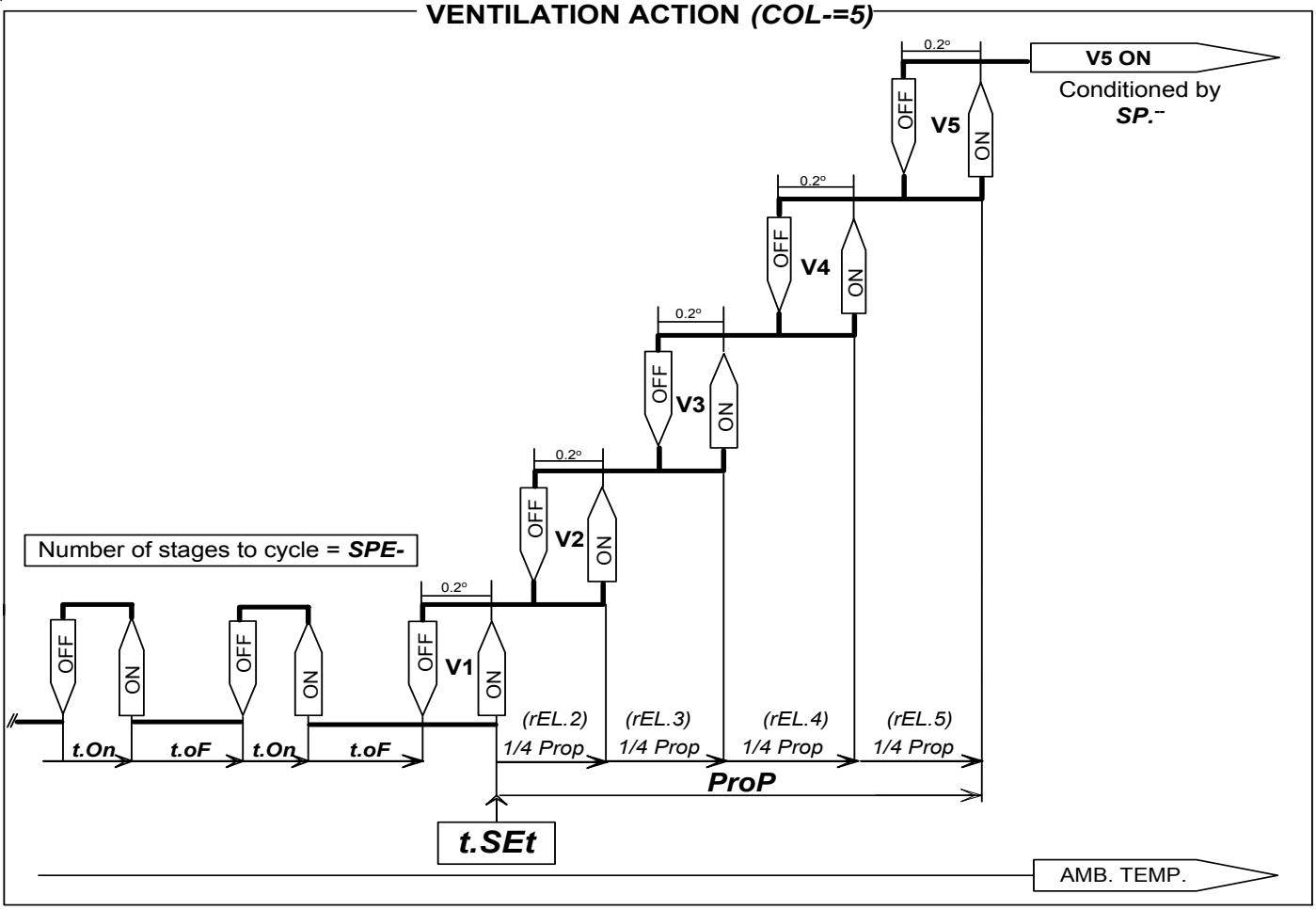
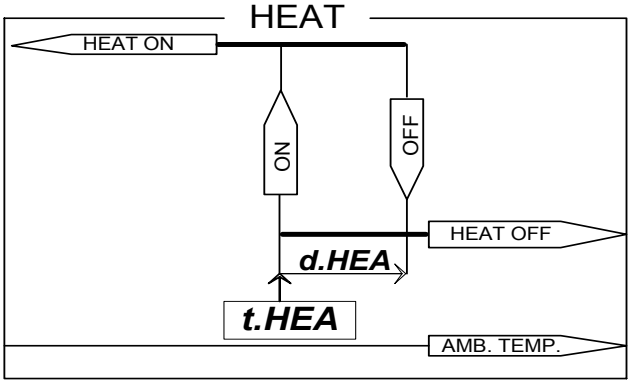
2.3) OPERATING DIAGRAMS

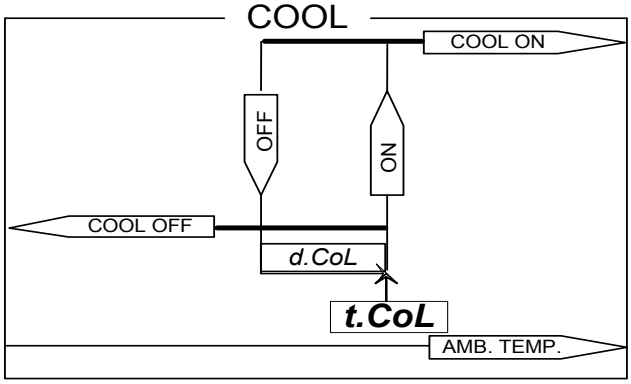
VENTILATION ACTION *(COL-=5)*



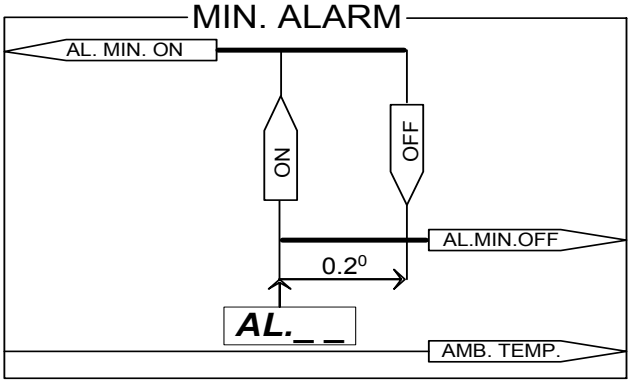
HEAT



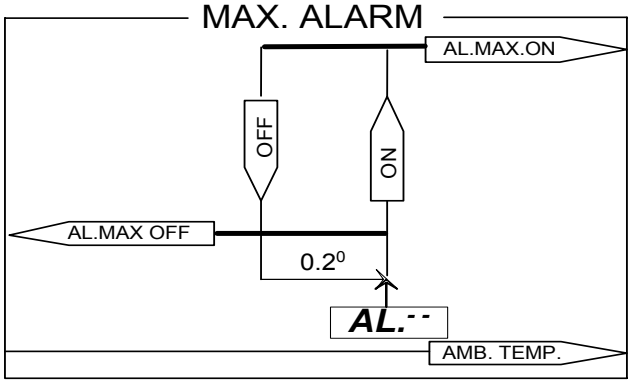
COOL



MIN. ALARM



MAX. ALARM



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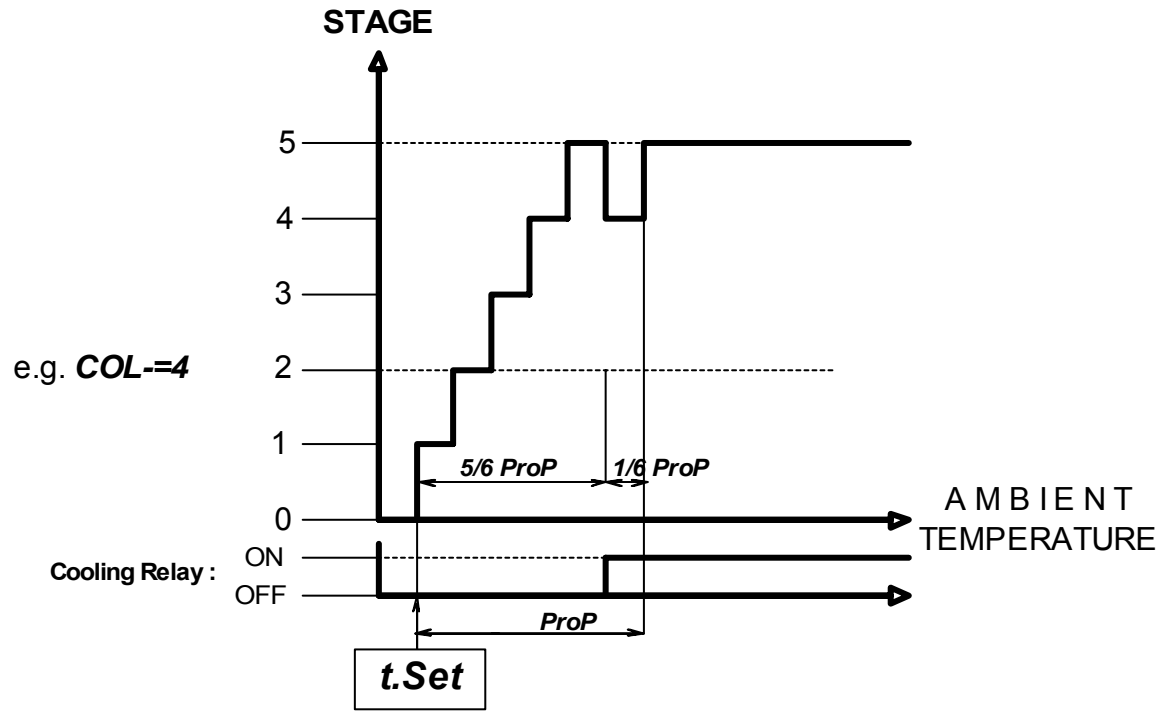
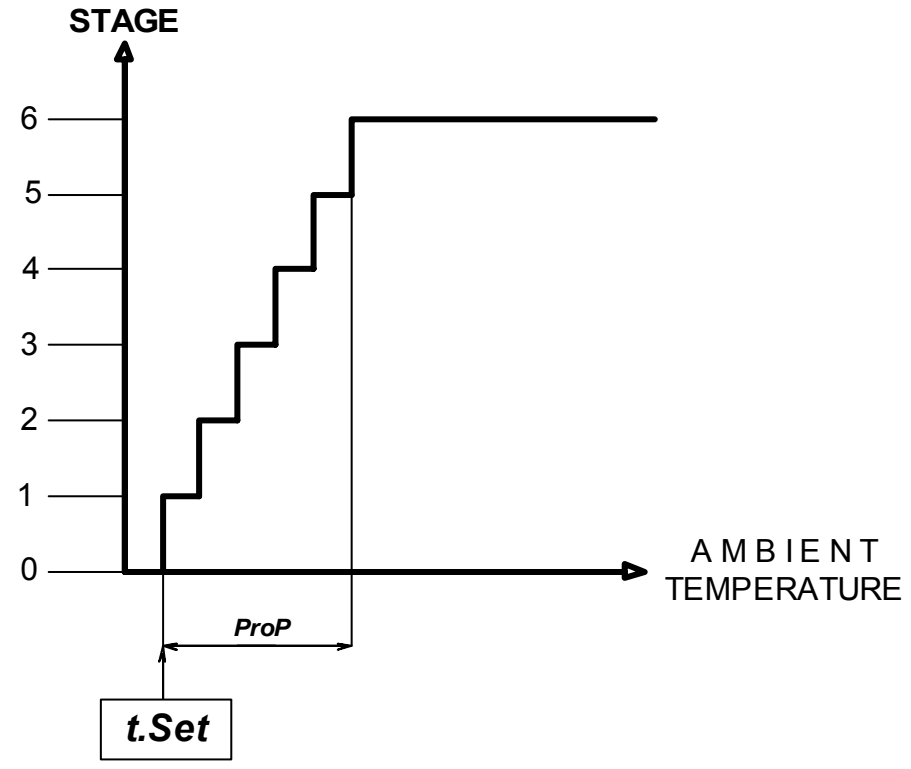
AUXILIARY VENTILATION (for ***COL-= 4***)

COMBI CONTROL



AUXILIARY VENTILATION (for ***COL= 6***)

TRUE 6 STAGE (COOL IS 6TH STEP)



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3.1) INSTALLATION

For correct installation, follow the instructions below very carefully.
You are recommended to install the controller properly so that it complies with current regulations, and also to use a max 4Amp fuse to prevent the relay output contacts from getting damaged and ensure they stay in perfect running order (terminals **11...30** of the **HC38A** module connectors)

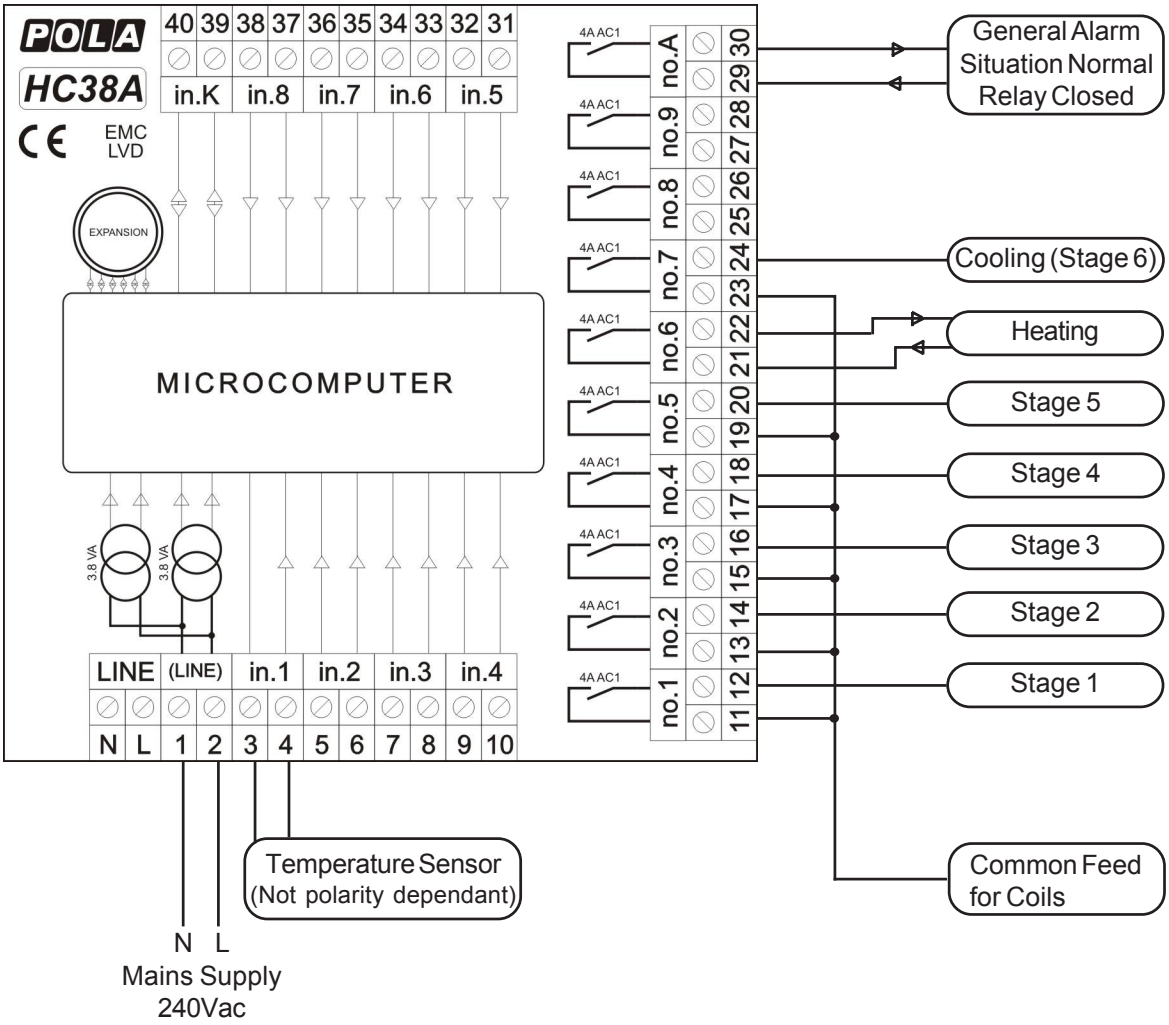
How to connect the sensors

Connect the sensor, provided, as shown in the diagram below.
For remote connections use a commercially available 0.2-square millimetre one pair screened cable for each sensor, taking great care over the connections, by insulating and sealing the joints carefully.

How to connect the contacts

Connect terminals **11-12...29-30** on the terminal block (contacts up to **4AMP.AC1**) to the loads as shown in the diagram (see overleaf).

This system has been designed and built to reduce electrical disturbance as best as possible. However, for better protection, only connect 24Vac loads to the relay contacts. If necessary, fit RC-type filters - e.g. our part number 640 - in parallel with the inductive loads (contactor coils, etc.) controlled by the relay outputs.



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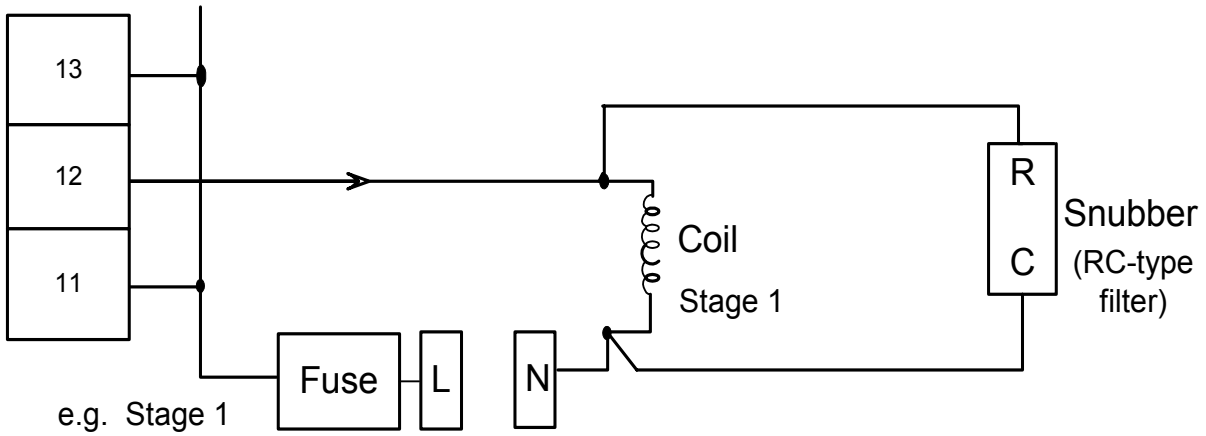
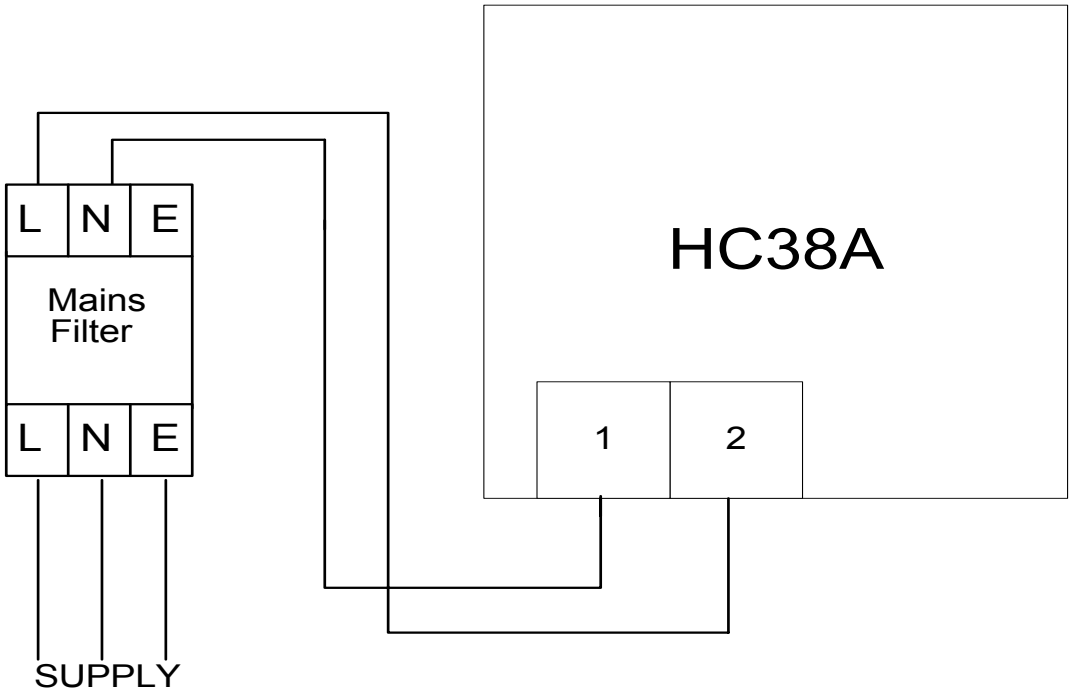
If working with 240 volt relays or contactors, **you must:**

a) Ensure that common feed (terminal 11) is supplied via a 4 amp fuse.
b) A snubber network (supplied) is connected across at least 1 coil of each stage, of ventilation and if applicable, heating.



MAINS SUPPLY FILTER PROTECTION



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2.9) PROGRAMMING TABLE

You are advised to record all the settings made in the table below so as to have an immediate reference for the Programming and Run modes.

HC38A

COSc	Main Functions
tEnP =	t.HEA =
Prop =	t.SEt =
rEL.2 =	SP.__ =
rEL.3 =	SP.¯¯ =
rEL.4 =	t.On =
rEL.5 =	t.of =
rEL.6 =	SPE- =
SPE- =	t.COL =
COL- =	AL.__ =
t.vEn =	AL.¯¯ =
d.HEA =	
d.COL =	
A.in1 =	
OPt.1 =	

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11.05.11

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