

INSTALLATION AND USE INSTRUCTIONS



P/N 62110094 - 885HC
cascade sequencer
(Apply for heaters up to serial
number 14999999)



WARNING!!! If the information in these instruction is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.

Installation and service must only be performed by qualified installer, service agency or the gas supplier.

SAFETY INSTRUCTION

! WARNING!!!

Installer: Read the appliance Installation Manual, including this manual, before installing. Perform steps in the order given.

User: This manual is for use only by a qualified heating installer.

Failure to comply with these provisions can cause a fire or explosion causing property damage, personal injury, or death.

! WARNING!!!

Qualified installer: qualified installer is an individual with specific, technical training in space heating systems, domestic hot water systems, fuel gas systems and electrical systems. This individual must have the legally required qualifications. Failure to comply with these provisions can cause a fire or explosion causing property damage, personal injury, or death.

! WARNING!!!

Installation and Alterations: Only a Qualified installer must carry out the installation and calibration of the heater. Never modify the heater or its flue gas carrying components in any way. This heater must be properly vented. Failure to follow these instructions could result in personal injury or death!

! WARNING!!!

Prior to any maintenance, disconnect the appliance's electrical power supply and shut off the inlet gas valve. Any replaced part or packaging should never be left within the reach of children. Failure to follow these instructions could result in severe personal injury or death!

1 - Installation

The installation must be done through the follow 8 steps.

1.1 - Step 1 of 8 - Piping installation

For the correct working of the 885HC cascade sequencer, appliances shall be installed like on Figure 1-1 where, the manager heater must be always the closest to the low loss header because on the manager heater there will be connected the cascade general sensor.

A maximum of 8 heaters can be connected in cascade.

At the time of the installation all heaters are equal. After the installation the heater nearest the low loss header need some hardware adjustment to become the Managing heater #1 and the other heaters need a software changement to become dependent heaters. To do so, exactly follow next sections.

NOTICE! Figure 1-1 is only one example of a conceptual piping configuration. A lot of other configurations can be done. Ask to your representant/Agent or directly to the heater manufacturer for any other configurations/schemes.

Content of the kit

This kit is composed by:

- a cascade sequencer P/N 62110094;
- These instructions.

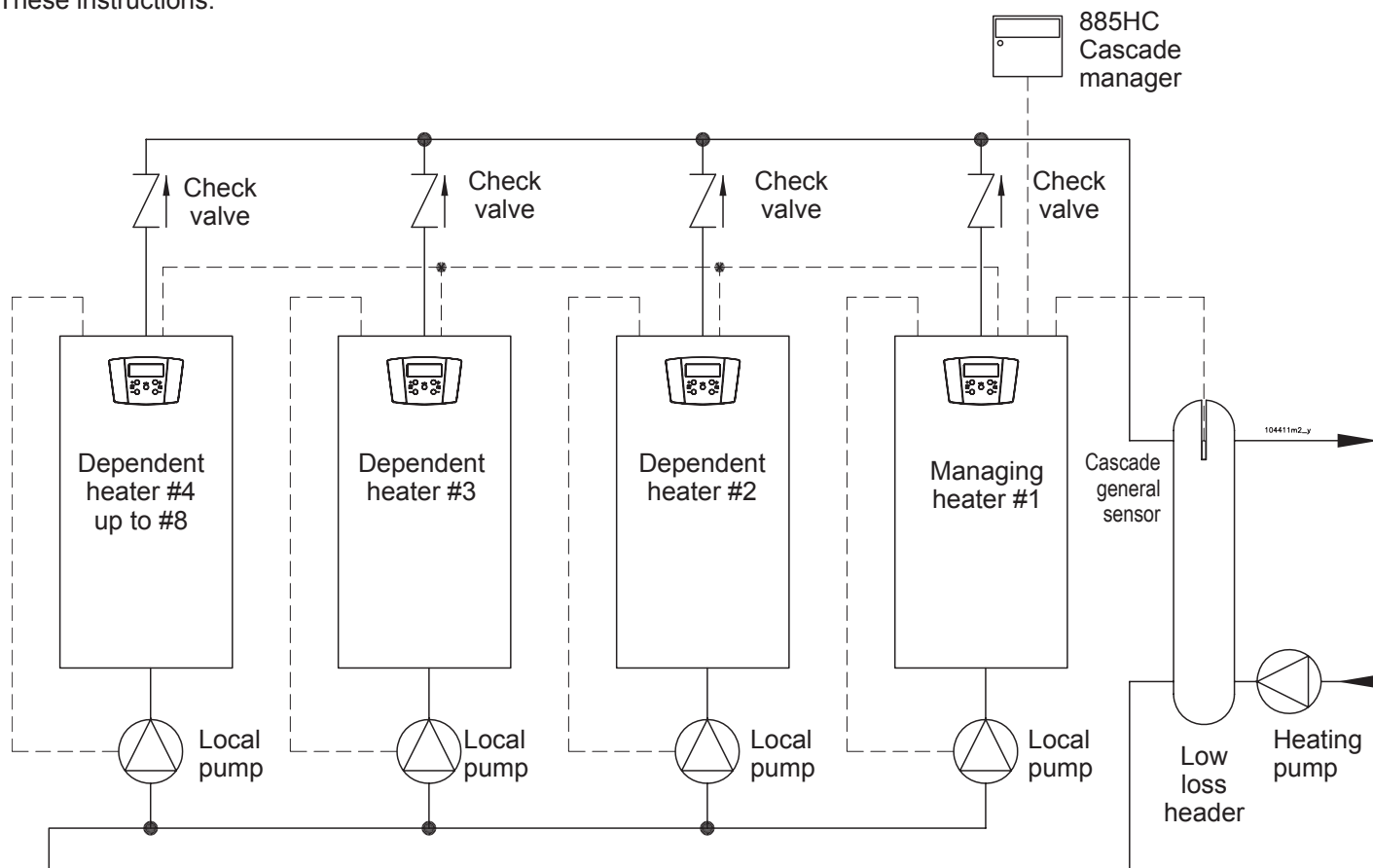


Figure 1-1 Conceptual cascade configuration

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1.2 - Step 2 of 8 - Electrical installation

The electrical installation must be done as per figure 1-2.

Installer have to install all wires represented by dashed lines.

As "Cascade general sensor" you can use the 62110071 sensor present inside the accessories box, included on each heater.

"Cascade general sensor" must be electrically wired to terminals 24 and 25 of the Managing heater # 1 and the probe placed into the low loss header of the cascade (see Figure 1-1).

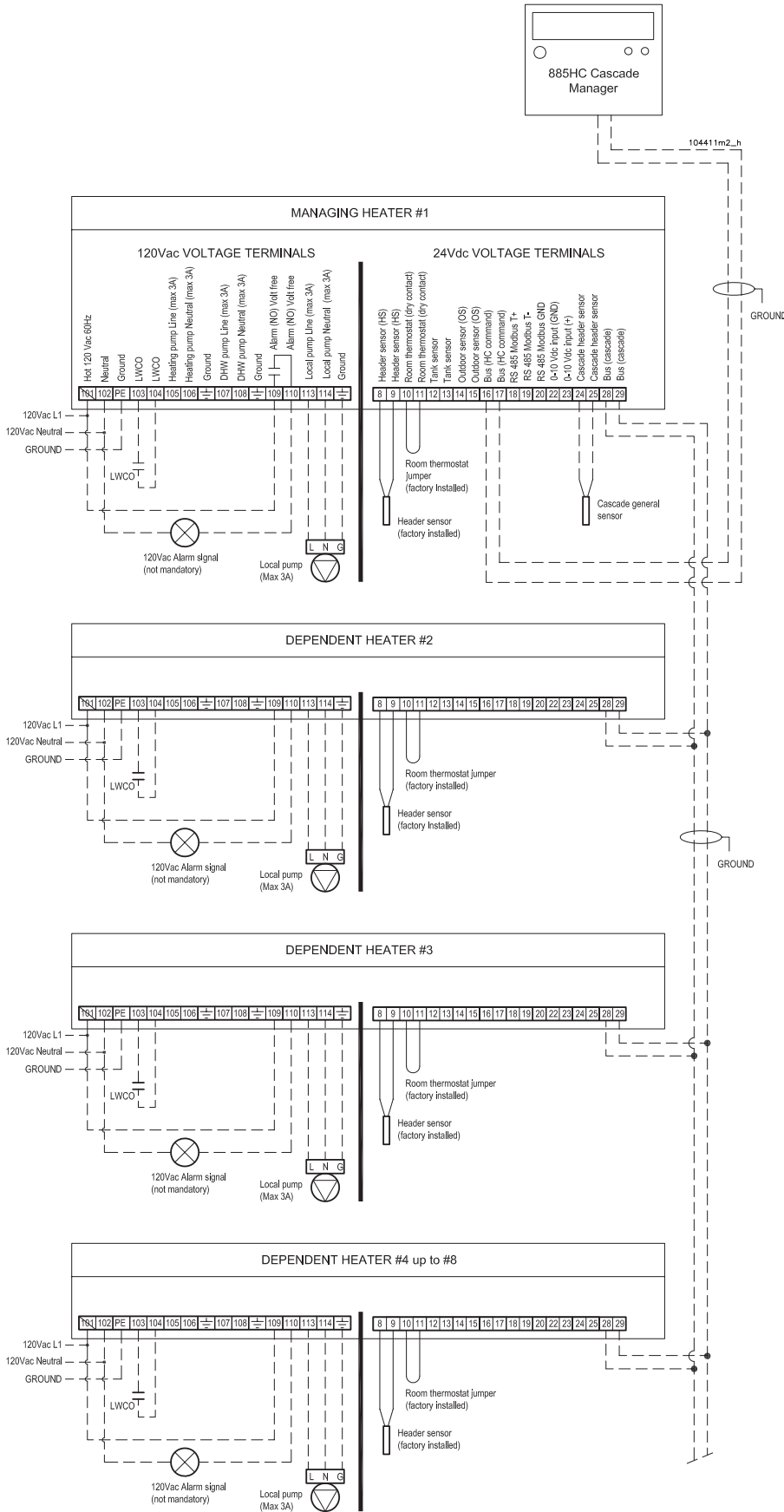


Figure 1-2 Electrical installation

1.3 - Step 3 of 8 - Electrical wiring adaptation inside Managing heater #1

Managing heater # 1, need the below inside electrical wiring adaptation. To do so operate as follow:

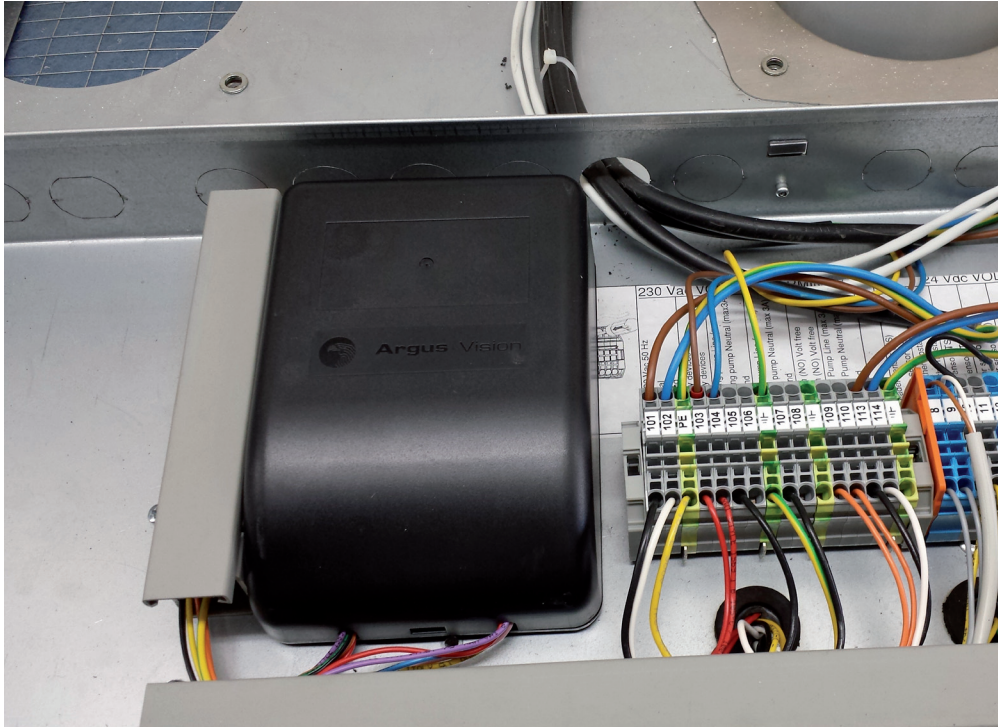


Figure 1-4 Managing heater # 1 Junction box

1. - Operating on the Managing heater # 1 only, gain access to the junction box (see Figure 1-4);

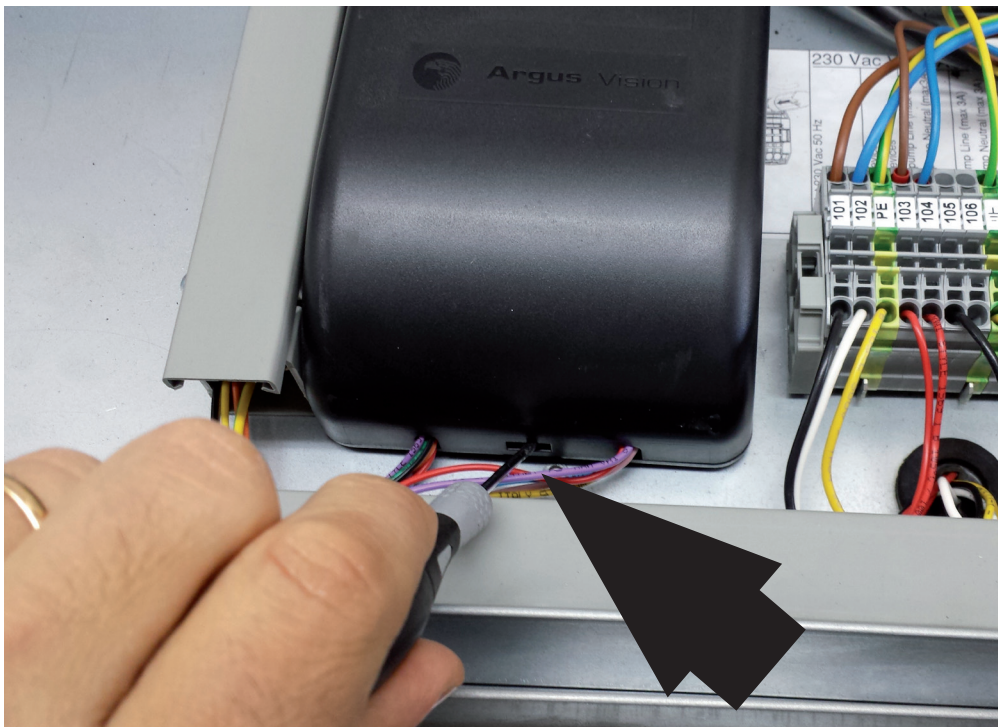
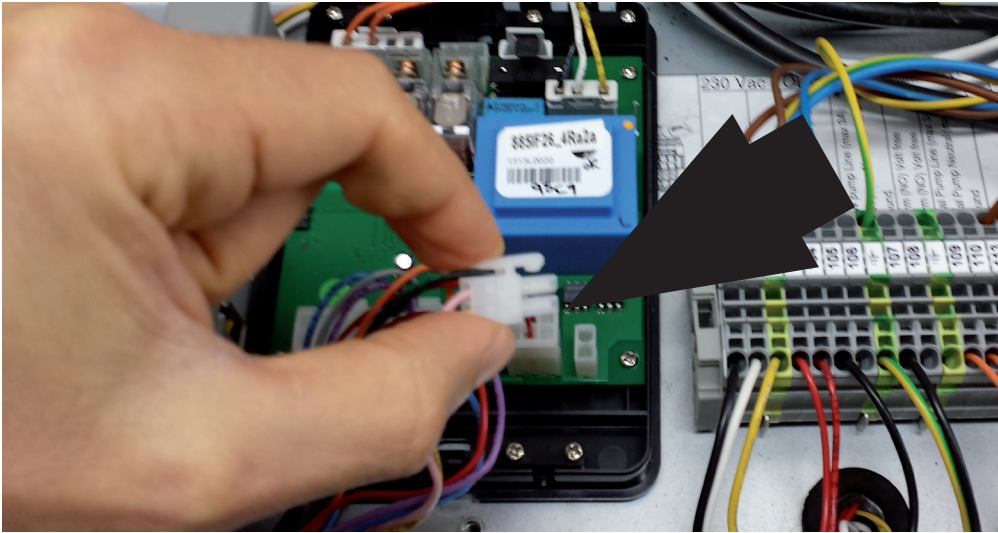


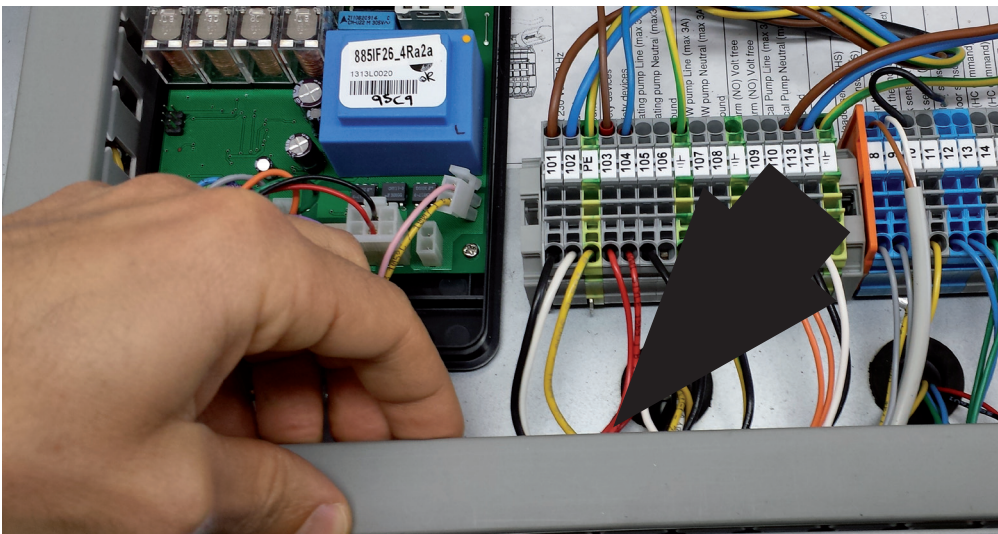
Figure 1-5 Open 885IF board cover

2. - With the help of a screwdriver, open the 885IF board cover (see Figure 1-5)



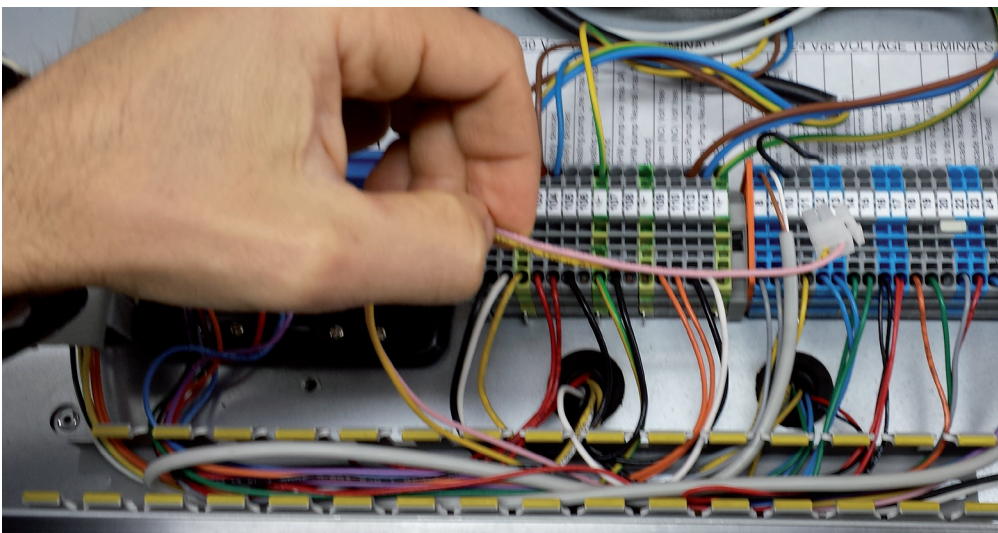
3. - Disconnect the plug with two wires from the 885IF board (See Figure 1-6)

Figure 1-6 Disconnect the 2 wires connector



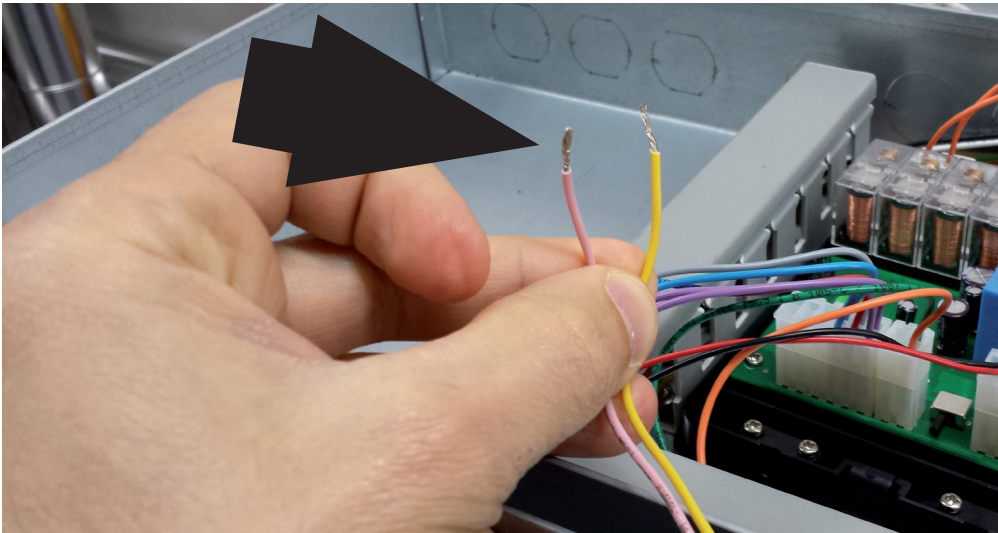
4. - Open the wires conduit cover (See Figure 1-7)

Figure 1-7 Open the wires channel cover



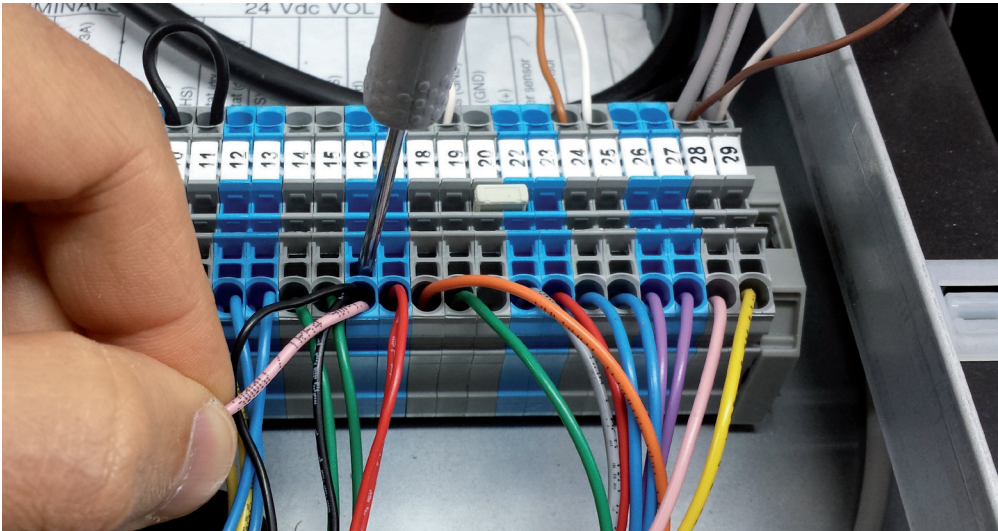
5. Take the two wires with the plug precedently disconnected from the 885IF board

Figure 1-8 Take the two wires disconnected from the 885IF board



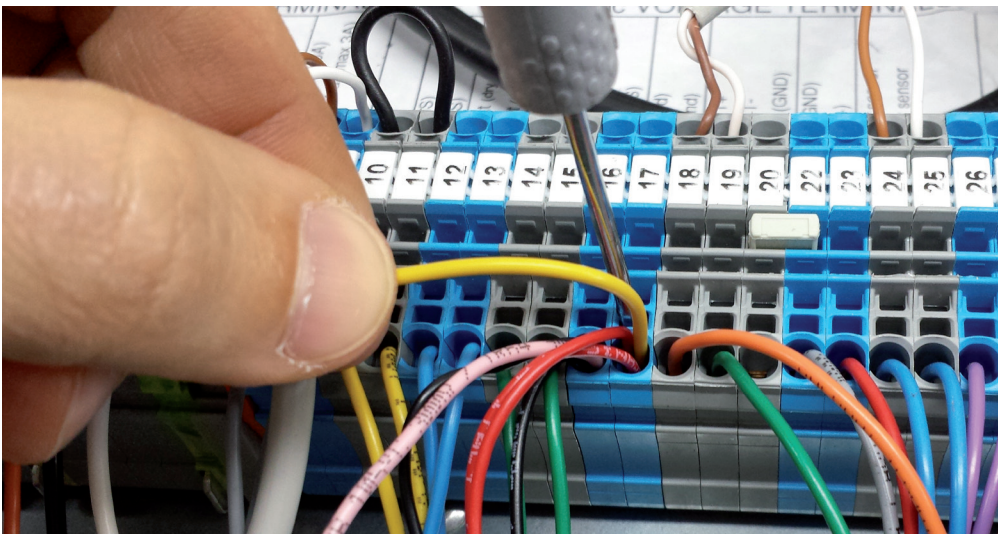
6. - Cut the plug from the two wires and strips the plastic for 1/4" (7mm)

Figure 1-9 Cut two wires near plug and strips the plastic for 1/4" (7mm)



7. - Connect the pink wire together the two black wires present on terminal N°16

Figure 1-10 Connect pink wire together black wires on terminal N°16



8. - Connect the yellow wire together the two red wires present on terminal N°17

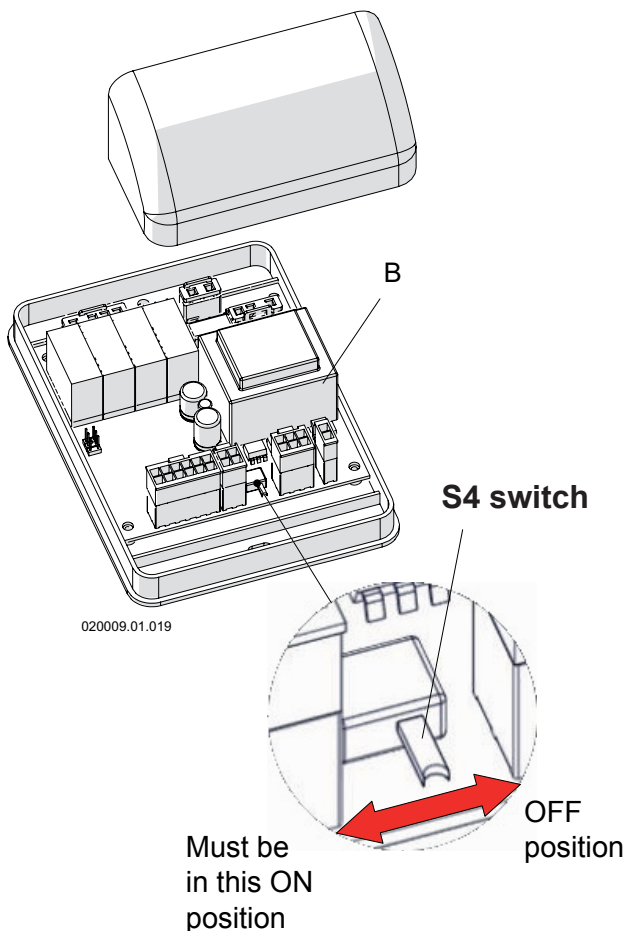
Figure 1-11 Connect yellow wire together red wires on terminal N°17

1.4 - Step 4 of 8 - Check and eventually adjust the S4 switch of the 885IF board placed inside all heaters.

- 1.- operate on the top of each heater you want to install in cascade, where is located the 885IF board (see Figure 1-12)
- 2 - if not already the case, move S4 switch from OFF position to ON position (see Figure 1-12)

1.5 - Step 5 of 8 - Adjust the logic address on each heater

- 1.- operate on Managing heater #1. Using two electrical wires long 2ft (0.5m) each, connect the 885HC command to terminals 16 and 17 of the Managing heater #1.
- 2.- turn the power on to the Managing heater #1.
- 3.- Using the 885HC command set the Address to 1 (see Section 2.1).
4. - Wait until 885HC command start to show the Address #1 (see Figure 2-1, item 1);
- 5.- turn the power off to the Managing heater #1;
- 6.- disconnect the two wires from terminals 16 and 17 of the Managing heater #1
- 7.- connect the two wires of the 885HC command to terminals 16 and 17 of the Dependent heater #2.
- 8.- turn the power on to the Dependent heater #2.
- 9.- Using the 885HC command set the Address to 2 (see Section 2.1);
10. - Wait until 885HC command start to show the Address #2 (see Figure 2-1, item 1);
- 11.- turn the power off to the Dependent heater #2;
- 12.- disconnect the two wires from terminals 16 and 17 of the Dependent heater #2;
- 13.- operate on the next dependent heaters in the same sequence from point 7 to 12 of this section, considering that the Address reference will increase of one unit each heater.
- 14.- after set the Address on all dependent heaters back on the Managing heater #1 and install the 885HC command to terminals 16 and 17.



1.6 - Step 6 of 8 - Adjust the 885HC command for boilers or for water heaters

885HC command is factory supplied with all parameters ready for boiler application but not for water heaters applications. When your system is in place, you have to review all parameters of the Sub Menu to be in line with the list of Section 2.1. Select the column Boiler settings if you are operating on a boiler application; select the column Water Heater settings if you are operating on a water heater application.

Figure 1-12 885IF board and S4 Switch

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1.7 - Step 7 of 8 - Adjust parameter 2003 on all Dependent heaters

Parameter 2003 is factory set to 0 (zero). However, someone could change that parameter. Then it is suggested to review the 2003 parameter of all Dependent heaters and set it to a value of 0 (zero). To do so follow the heater installation manual, section "Installer's menu".

1.8 - Step 8 of 8 - Review of all parameters

Figure 1-14, show a cascade with 3 heaters model 1000 (with four control boards (885MN board) each one.

At the end of the installation, all parameters (Address; Switch S4; 2003; 3001 and 3050) shall have the values as shown on figure 1-14.

If one of these parameters do not have the value as per Figure 1-14, the cascade or one heater will show Err 116 (communication error) and will stop.

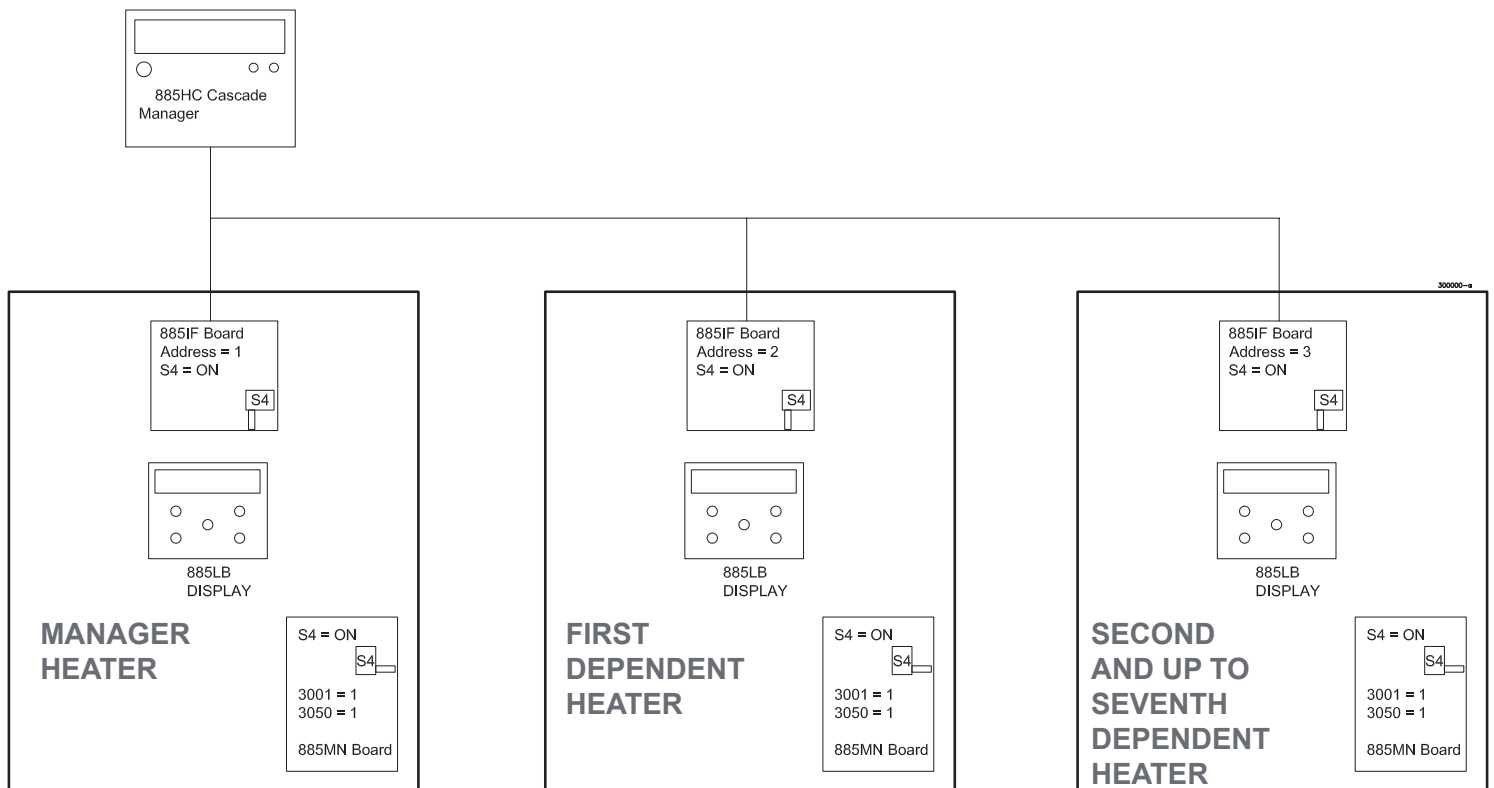


Figure 1-13 Cascade general settings for Addresses, parameters 3001, 3050, 2003 and switches S4 on heaters model 199.

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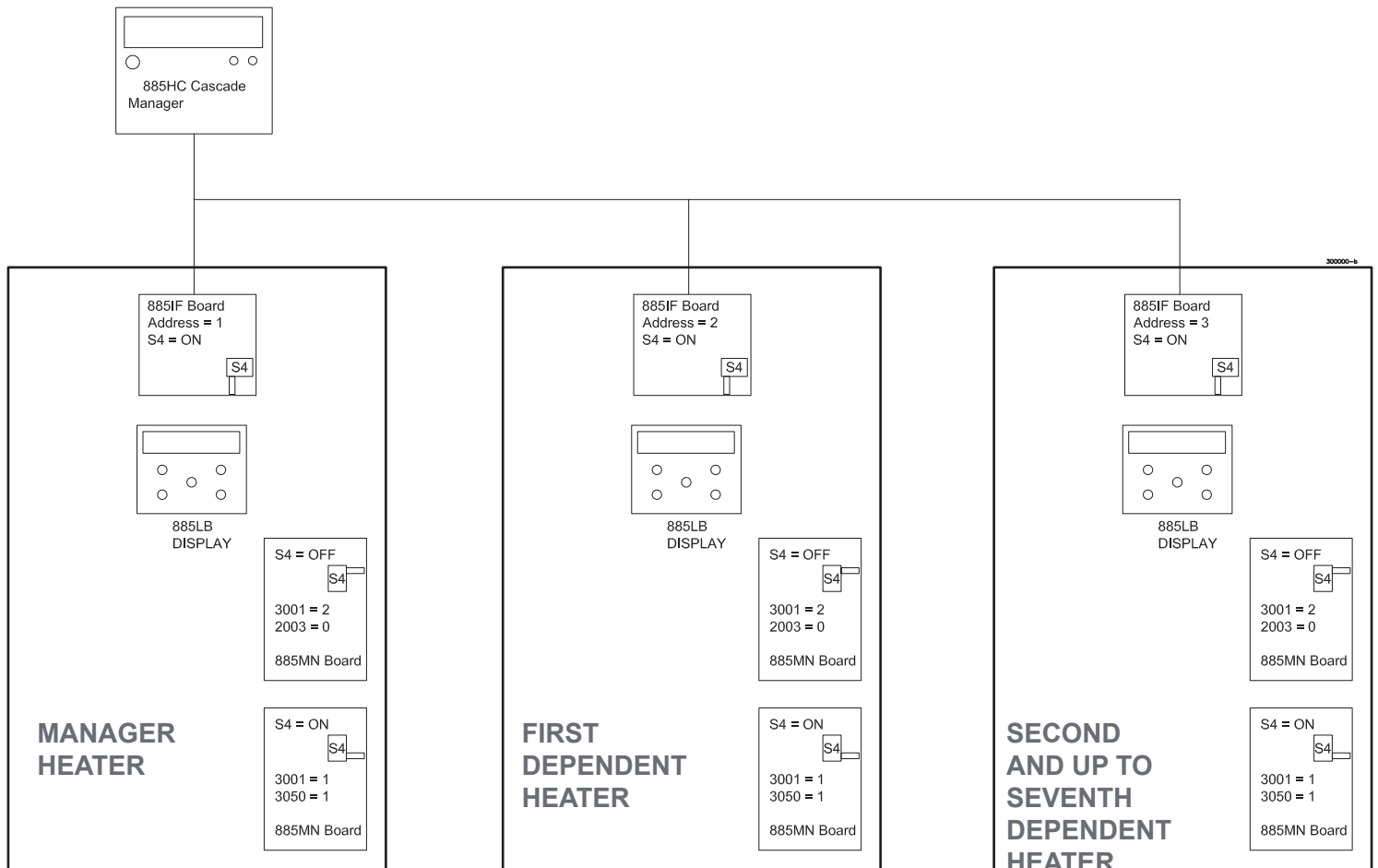


Figure 1-14 Cascade general settings for Addresses, parameters 3001, 3050, 2003 and switches S4 on heaters model 399 and 500.

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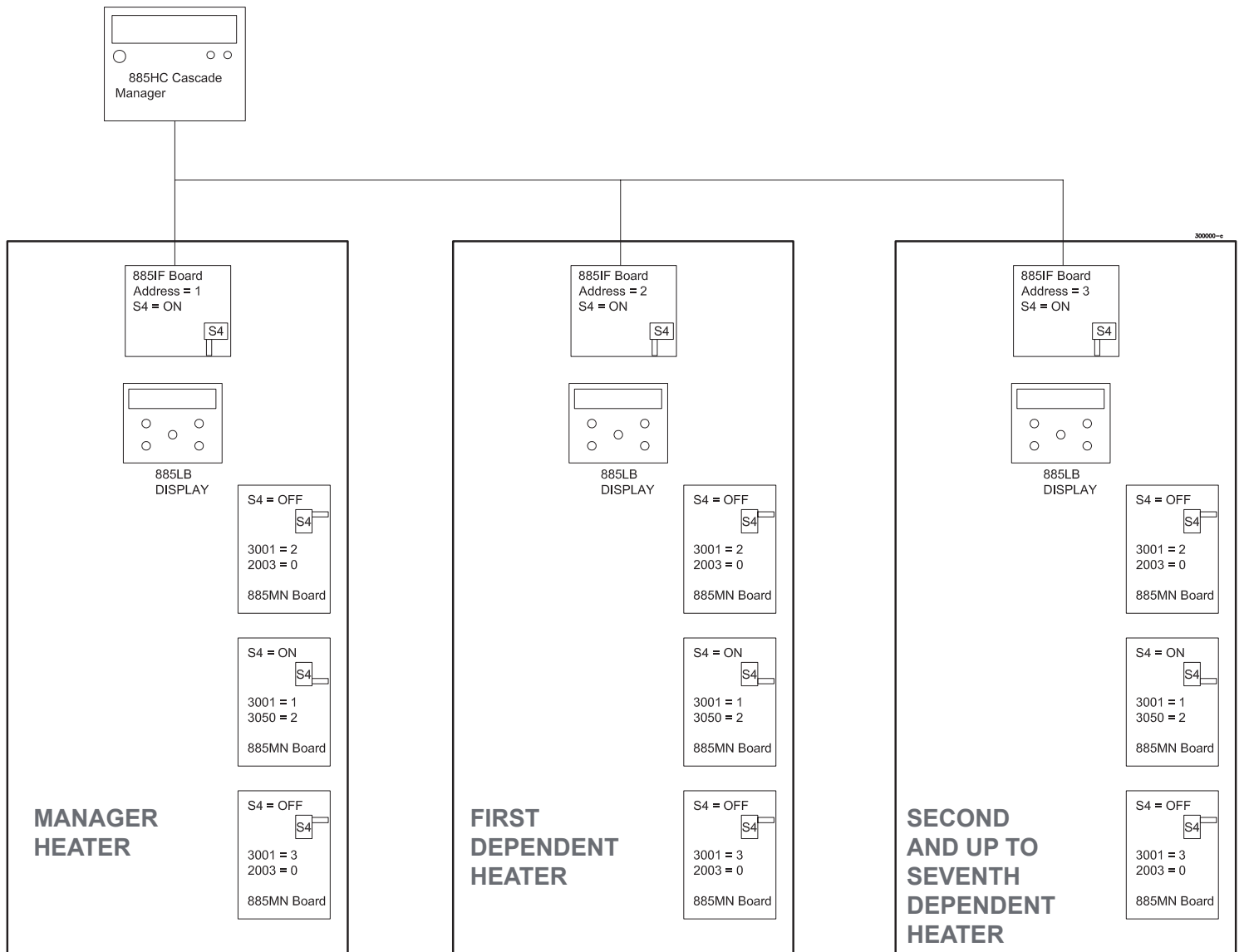


Figure 1-13 Cascade general settings for Addresses, parameters 3001, 3050, 2003 and switches S4 on heaters model 750.

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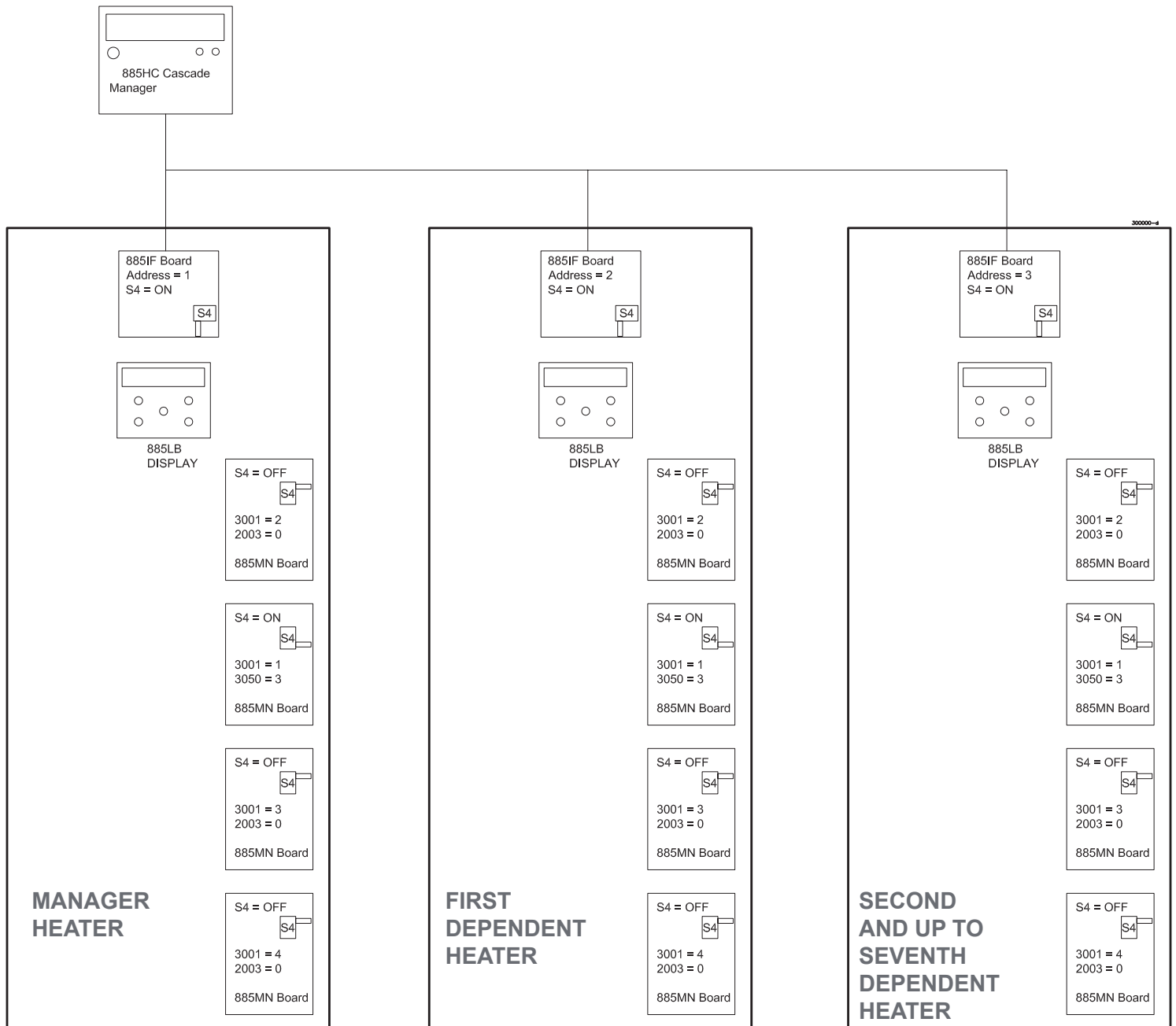
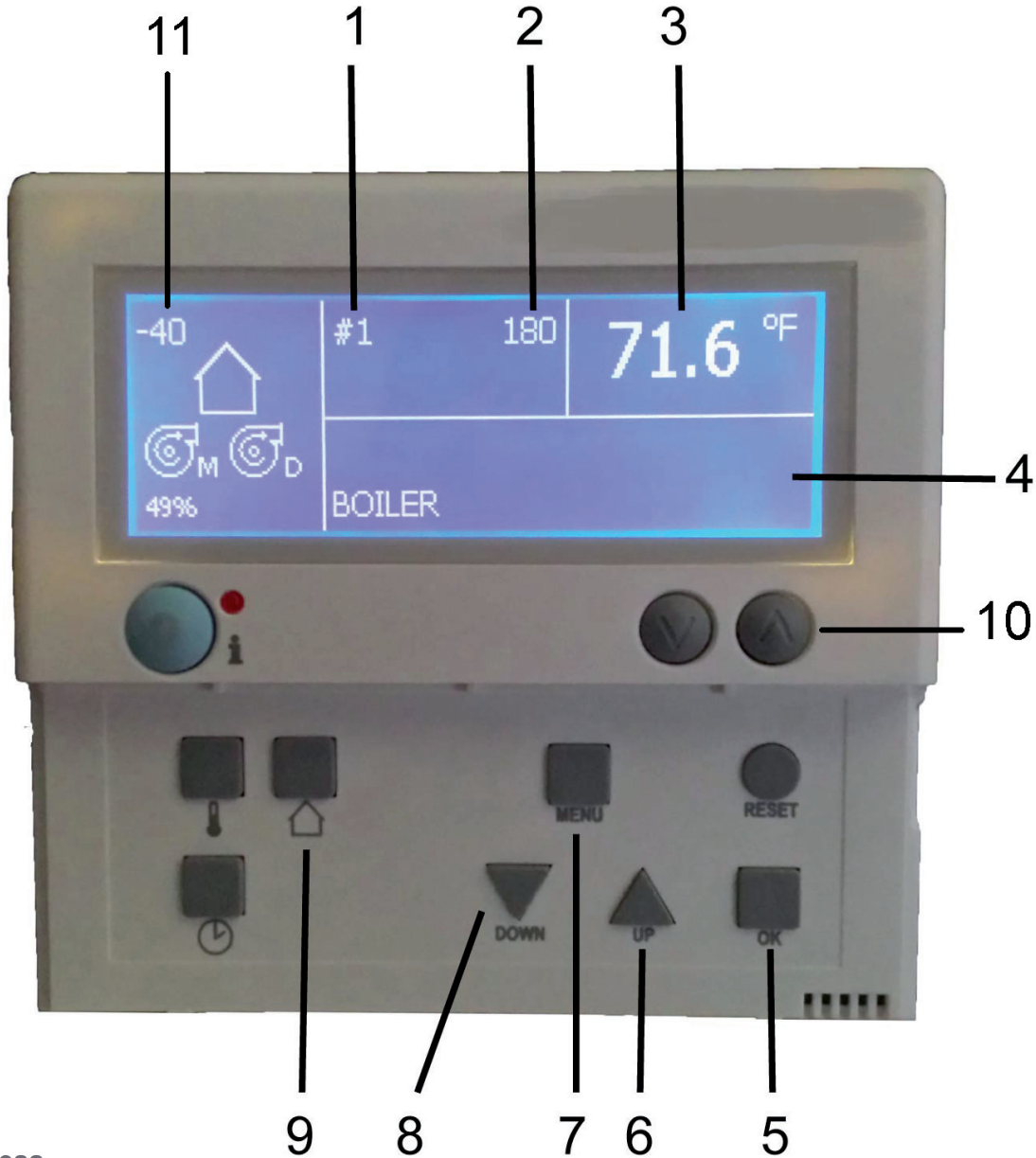


Figure 1-13 Cascade general settings for Addresses, parameters 3001, 3050, 2003 and switches S4 on heaters model 1000.

2 - Use of the 885HC sequencer

NOTICE! Before any activity wait 40 seconds for communication between sequencer and heaters

The 885HC cascade sequencer has a basic screen that you can see in the picture below. Each button of the display has a different function.



Legenda:

- 1 = Logic address
- 2 = Cascade setpoint
- 3 = Cascade temperature
- 4 = Informations box
- 5 = OK button to confirm a changement to a parameter
- 6 = Up button to scroll parameters or to increase a value
- 7 = Menu button to back on normal menu
- 8 = Down button to scroll parameters or to decrease a value
- 9 = Home button to enter the menu
- 10 = Cascade status button
- 11 = Outdoor temperature (displayed if an outdoor sensor is connected. See heater's instalation manual)

Figure 2-1 885HC cascade sequencer.

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By pressing button “10” the bottom side of the display will change to show the status of the cascade. Display will show the numbers of heaters into the cascade, numbers “1”, “2”, and “3” (they can be up to “8”) and if they are in request for heating (a flame icon appear below the number), or if they are in stand by (no flame icon below numbers).



2.1 - Sub Menu

From the status screen the “Sub menu” can be entered by pressing and hold the “Home” button for 8 seconds. When the Sub menu is displayed you can select a parameter by scrolling the list with the “Up” and “Down” button. When the parameter is selected, press the “Ok” button. The parameter value will start

to blinking. Now you can change the parameter value by using the “Up” and “Down” button. When the desired value is reached you can save it by pressing the “Ok” button. To leave the Sub Menu, press the “Menu” button.

NOTICE! After any chngement, wait 40 seconds before live the sub menu or turn the power off.

Parameters displayed in this Sub Menu are:

Parameter	M.U.	Range	Factory settings	Boiler settings	Water Heater settings	Customized value
Boiler address	/	0..16	0	0 - Stand Alone heater 1 - for Managing 2 - for first dependent 3 - for second dependent 4 - ...etc	1 - for Managing 2 - for first dependent 3 - for second dependent 4 - ...etc	
Cascade setpoint	°F	68..194	140	140	140	
DHW ON..OFF	/	ON..OFF	OFF	ON only if you want to drive an indirect water heater	OFF	
Start delay time	sec	0..1200	180	180	15	
Stop delay time	sec	0..1200	180	180	15	
Start boiler diff	°F	14..36	14	14	14	
Stop boiler diff	°F	14..59	14	14	14	
Stop all boiler diff	°F	14..59	26	26	26	
Max offset up	°F	14..50	24	24	24	
Max offset down	°F	14..50	37	37	37	
Rotation interval	Days	1..10	5	5	5	
P Value	/	0..255	20	20	20	
I Value	/	0..255	80	80	80	
D Value	/	0..255	0	0	0	
Slew rate	/	1..255	5	5	5	
System correction	°F	14..32	22.1	22.1	22.1	
Mod delay factor	min	0..60	4	4	0	

CAUTION!!!

To contact technical support
see last page of the installation manual