

Fan

First
Part

Insights and system applications Multizone
thermoregulation *Intellicomfort+*

- COMPONENTS AND RADIO-FREQUENCY COMMUNICATION METHODS ADOPTED BY THE SYSTEM
- THE CONCEPT OF ZONE AND MAXIMUM NUMBER OF DEVICES MANAGED BY THE SYSTEM
- WEEKLY PROGRAMMABLE THERMOSTAT AND THERMOSTAT
- ACTUATOR FOR RADIATORS
- ACTUATOR RELAY RADIO-FREQUENCY
- CONFIGURATOR
- THE SYSTEM NET
- INCLUSION OF COMPONENTS IN THE NET
- UNION AMONG DEVICES IN THE SYSTEM
- VERIFICATION OF DEVICES CONFIGURED
- CONFIGURATION SAVED IN MASTER
- COMMUNICATION FLOW AMONG SYSTEM COMPONENTS
- FIRMWARE COMPONENTS VERSION
- INSTRUCTION MANUAL AND DOCUMENTATION
- EXEMPLE

CH180RFWiFi
Weekly programmable thermostat mutizone
(with humidity sensor)



Power supply 230Vca
(Wifi + radiofrequency)

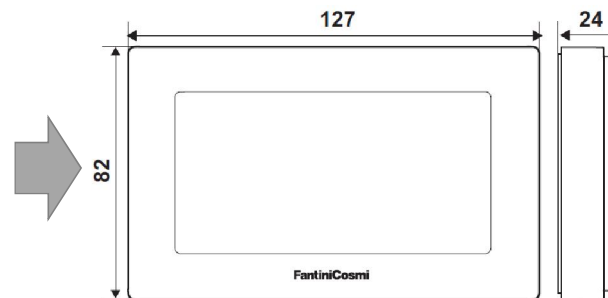
Detection & implementation

CH120RF
Zone Thermostat
(with humidity sensor)



Power supply with batteries
(230Vca with kit 1598089)

Detection & implementation



Mounted on wall, compatible with box 503
Relay: 1 exchange contact , 5(3)A 250Vca

O60RF
Radiator actuator radio frequency



Standard connection 30x1,5mm
Power supply with batteries 2xAA
(adaptable to all valves)

Detection & implementation

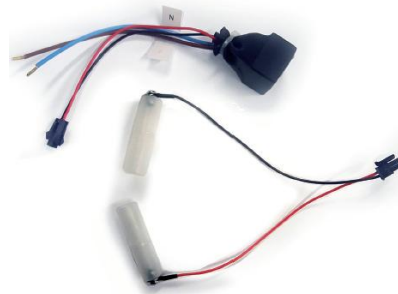
CH175
Multifunction actuator radio frequency



Relay: 1 contact , 16(4)A 250Vca
2DIN – Power supply 230Vca
(configurable in 12 actuation types)

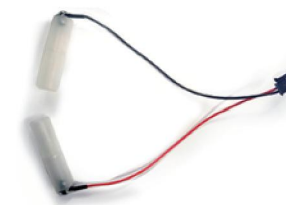
Actuation

1598089
Power supply Mini Kit



230Vca – Exit 3V3 0,6A
Power supply (dim.35x20x20mm.)
+ adaptor for 2 batterie

1598090
Adaptor batteries



Adaptor for 2 batteries

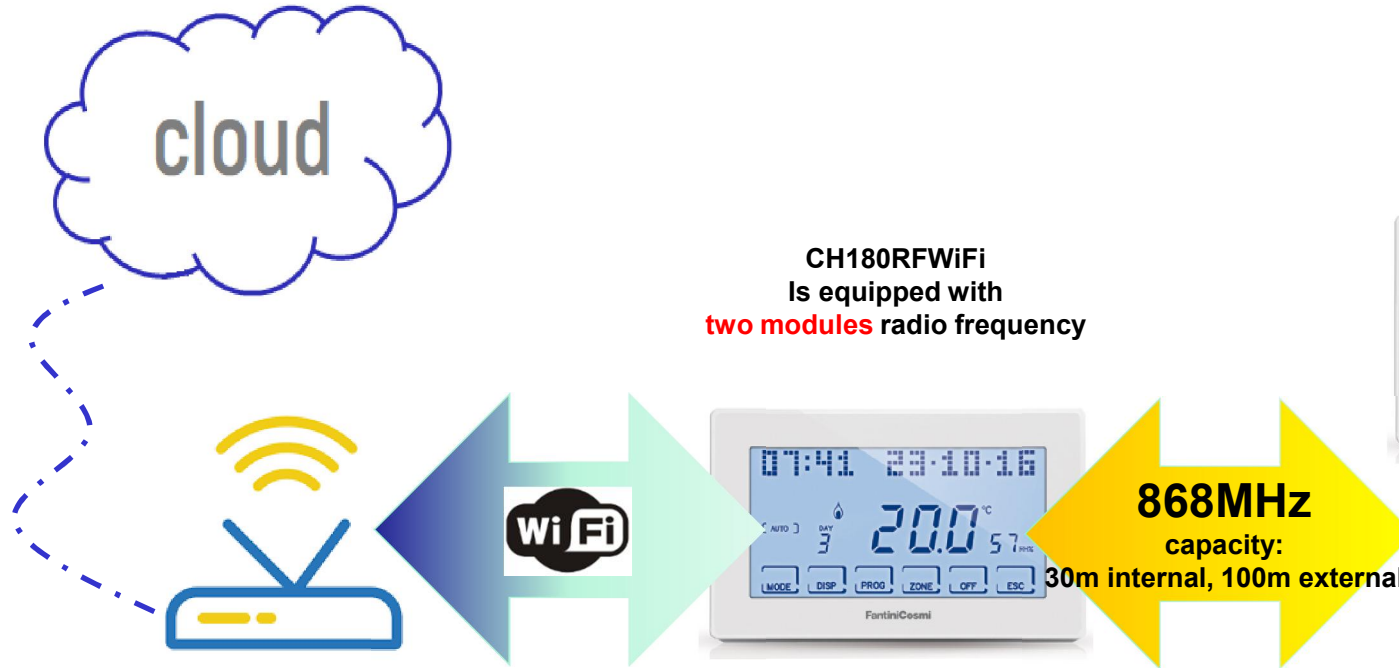
1590880
Configurator

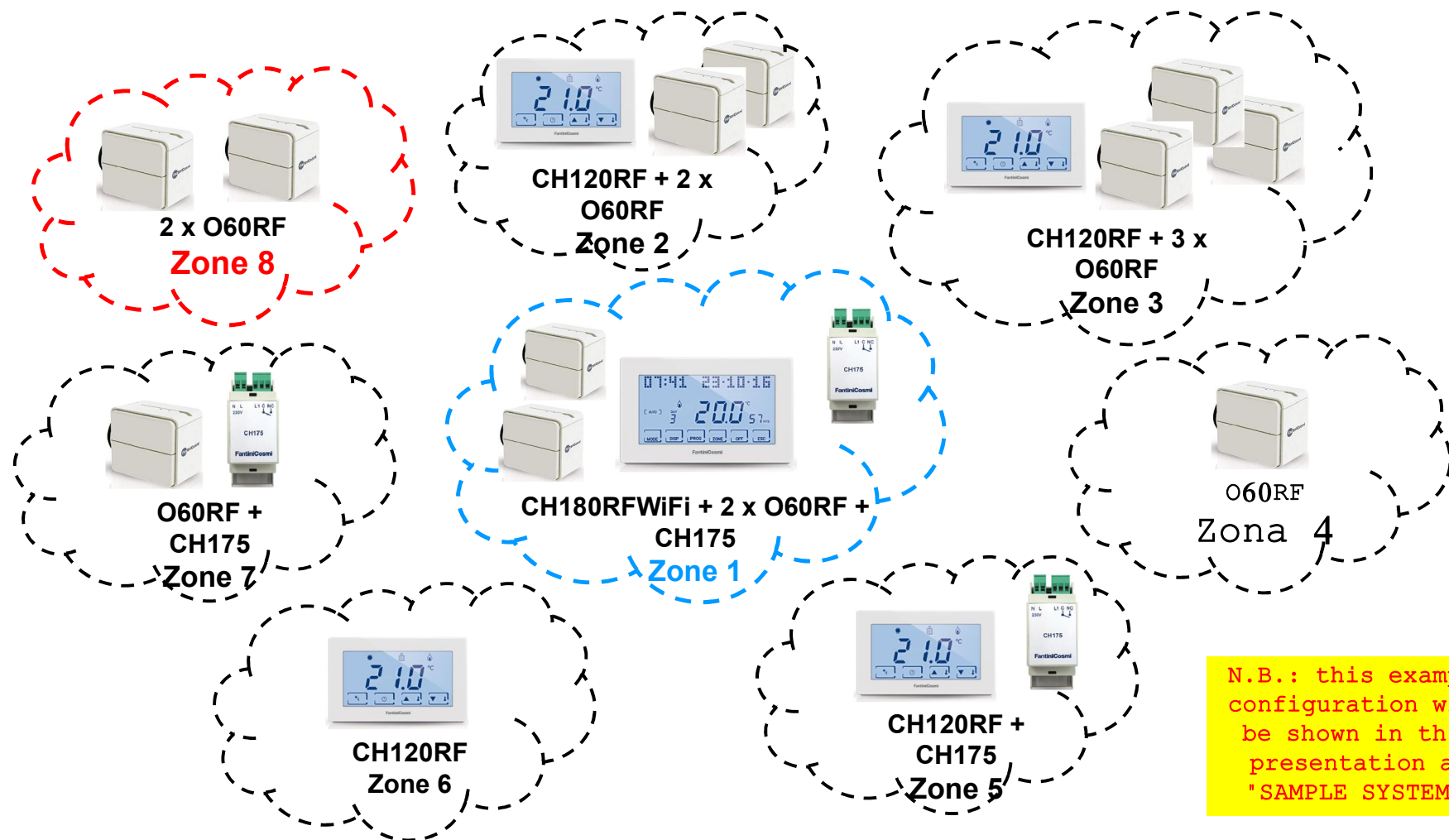


Used for installation

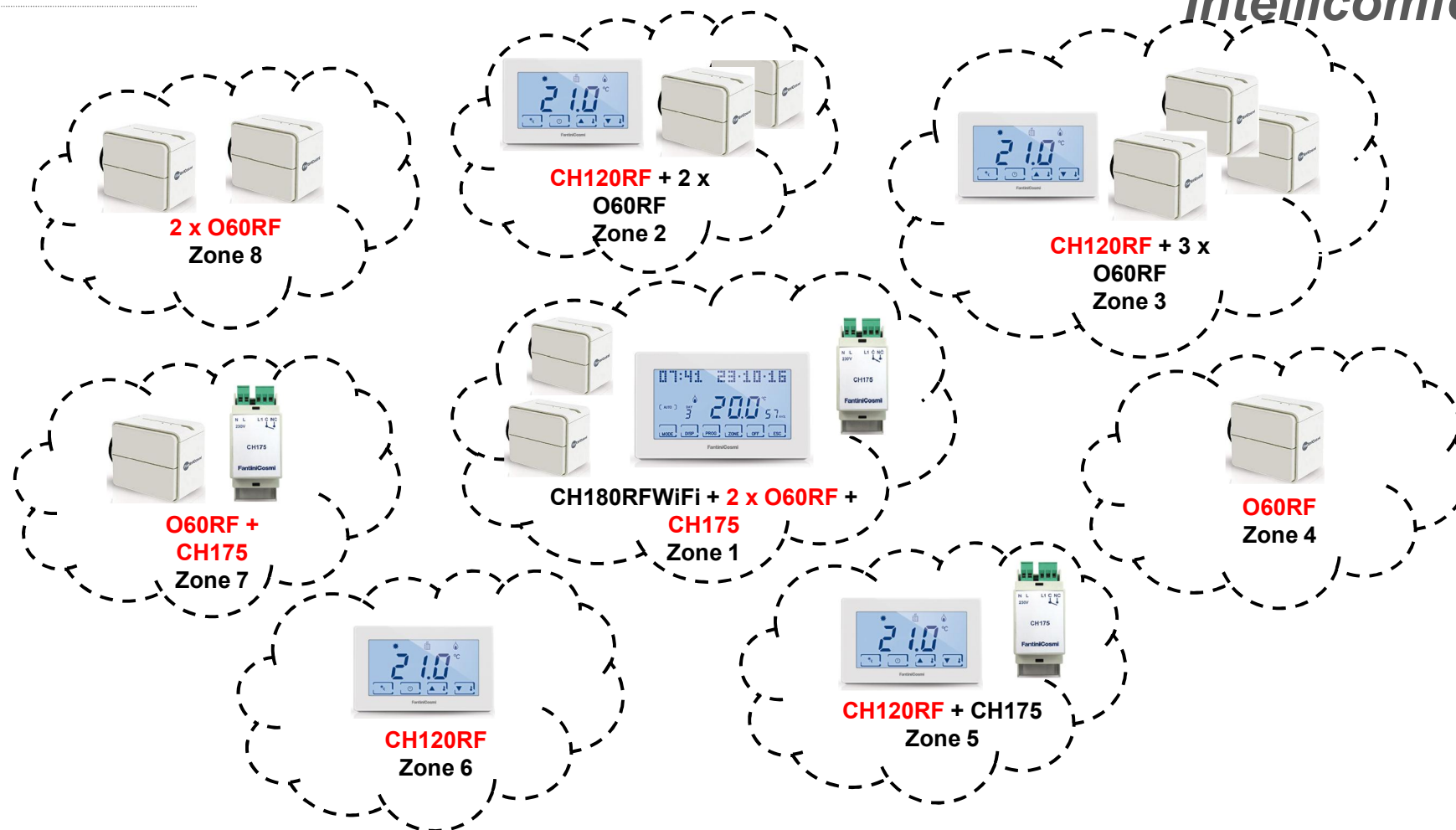
Radio frequency modes adopted by the system *Intellicomfort+*

CH120RF, CH175 and O60RF
Are equipped with
only one module radio frequency





- The system *Intellicomfort+* can be divided into **maximum 8 zones**; the **CH180RFWiFi** is always **Zone 1**
- **Zone** means an area (one or more rooms) **where is intended to control temperature and humidity**;
- **One zone** to "exist" **must be composed at least for one thermostat CH120RF or an actuator O60RF**, meaning that must include a device able to **detect** ambient temperature.



- To weekly programmable thermostat CH180RFWiFi can be directly connected **maximum 15 devices**;
- Actuators O60RF and CH175 in a zone controlled by thermostat CH120RF, are not counted;
- To each zone with a thermostat CH120RF, can be connected maximum **15 devices** (O60RF/CH175).

Looking at the exemple, **devices directly connected to CH180RFWiFi are 12** (in red), **despite the total number is 18**.

CH180RFWiFi

Weekly programmable thermostat
multizone



Detect & implement

Is the fundamental component of **the system**, to which always refers **Zone 1** (even if is not used).

On it, all relevant **setting related to the relevance of the user** as well as **setting needed for installation** are configured.

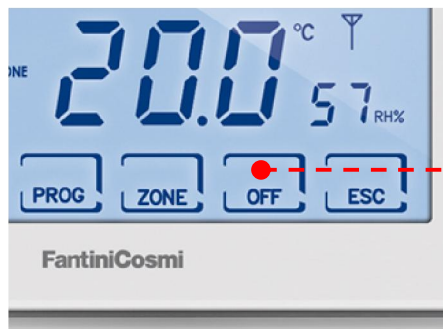
On it, it is possible to modify/select for each zone or all of them simultaneously:

- mode AUTO-MAN-JOLLY_HOLIDAY
- Temperature set-point in Economy, Comfort, Manual, Antifreeze.

The weekly programmable thermostat **has a relay that can be configured** (by logging in menu "PROG AVANZ"), and choosing one of the **eight different types of actuation** available:

RIS.G – RAF.G. - R.R.G. – RIS.Z – RAF.Z. - R.R.Z. - DEU.G. – DEU.Z. – OFF (configured from the factory).

Note: see instruction manual CH180RFWiFi chapter 7.6 for more details concerning local relay.



Important:

Do not use key "OFF general" for **switching off** heating /cooling because this key sends the whole system in sleep-mode to preserve the life of batteries in summer time. **After that, the system may need 6÷8 hours to come back to its complete regime.**
If requested, use the key OFF of single zones.

CH120RF
Zone Thermostat



Detect & implement

Is the device **able to manage a zone** (zone 2÷8) and **from which it is possible to do temporary some modifications** but not to those concerning operating mode and current set-point of the zone.

Its presence, in one area, **allows the user to accurately detect both temperature and humidity** of the environment, allowing therefore the advanced thermoregulation management of this system.

The thermostat has a **local configurable relay** (see ADVANCED SETTINGS) selecting one of the **four different types of implementation** available:

0=OFF (Config. from the factory) - 1=Heating – 2=Cooling – 3=Heating+Cooling – 4=Hygrostat.

Note: see the chapter ADVANCED SETTINGS in the instruction manual of CH120RF for more details about local relay.

To release the operation system from the autonomy of batteries, it is recommended to use the Kit Mini-power supply (cod. 1598089) and/or batteries power supply (cod. 1590890) for 230V

Able to **detect** the temperature, thanks to its sensor.

If the zone where is associated/linked **has not a thermostat** CH120RF, the temperature is **detected by the actuator itself who will autonomously carry out the regulation process**, on the basis of the current set-point sent by the weekly programmable thermostat.

In an unattended area without thermostat, in case of one or more O60RF, **the temperature indicated in the zone is alternatively that one coming among those read by all O60RF.**

If associated/linked to **Zone 1** (manned with CH180RFWiFi) or **other zone manned by thermostat** CH120RF **local temperature detection is deactivated** and the regulation will be done on the basis of the temperature detected by the local thermostat.



Detect & implement

Standard connection 30x1,5mm
Power supply with batteries
2xAA
(adaptable to all valves)

The valve with thermostatic option is implemented in PID mode (i.e. modulating) which, in addition to ensuring “fine” regulation, safeguards the autonomy of the batteries. Therefore, it is possible that the equilibrium position (set point reached) may be with the radiator partially open and therefore hot.

Important: the success of a system with actuators O60RF depends on the correct installation of the valve, therefore:

- Before mounting the actuator make sure that the thermostatic valve works correctly;
- Screw and tighten the ring nut, making sure that the pin does not protrude more than 1 mm;
- Insert batteries after mounting O60RF in the valve.
- The actuator must have the sensor facing upwards.



Actuator

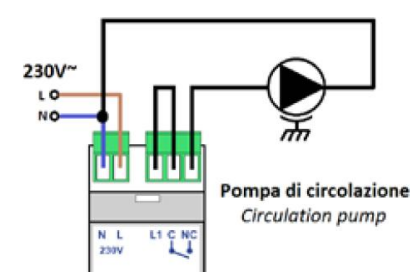
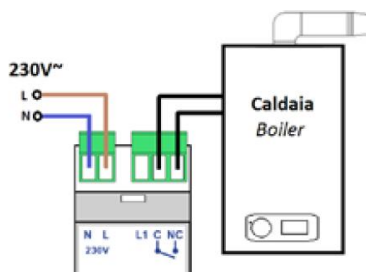
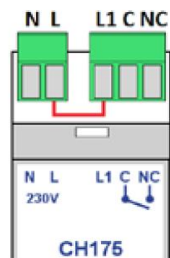
Is a **multifunction wireless relay** used for **implement** electrical loads enslaved to the thermoregulation system.

On the basis of final use according to its destination in the system, its **"type of implementation"** must be **selected** at the moment of its **"inclusion"** in the net of all radio-devices.

If its final use is of type **"GENERAL"** (i.e.. Heating+cooling-Gen, Heating-Gen, Cooling-Gen, Dehumidification-Gen, Dehumidification-Zone A/B, Aux 1, Alarm), this module **must always be linked to Zone 1** that is to CH180RFWiFi.

Regardless of the need or not to have an implementation, the CH175 **can be used as a radio range repeater** (at most one per single network); in this case the module **simple receives and retransmits all the radio messages** of the radio device network **to which it belongs**.

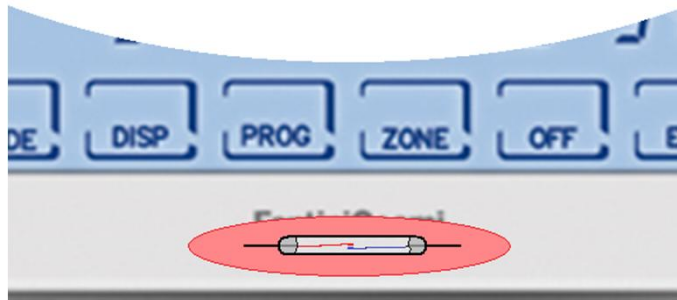
Relay: 1 contact, 16(4)A 250Vca
2DIN – Power supply 230Vca
(configurable in 12 different types)



Important: the module gives a contact type C-NC (to be understood as **closed with active function**).

The exit terminal block "L1" is entirely connected, on the board, to terminal "L"; therefore:

- To command devices with **contact free of tension**, follow **example Fig.2** described in instruction manual
- To command devices with **contact in tension**, follow **example Fig. 3** described in instruction manual.



All system devices are equipped with a contact "reed", activated by touching the magnet on the programmer

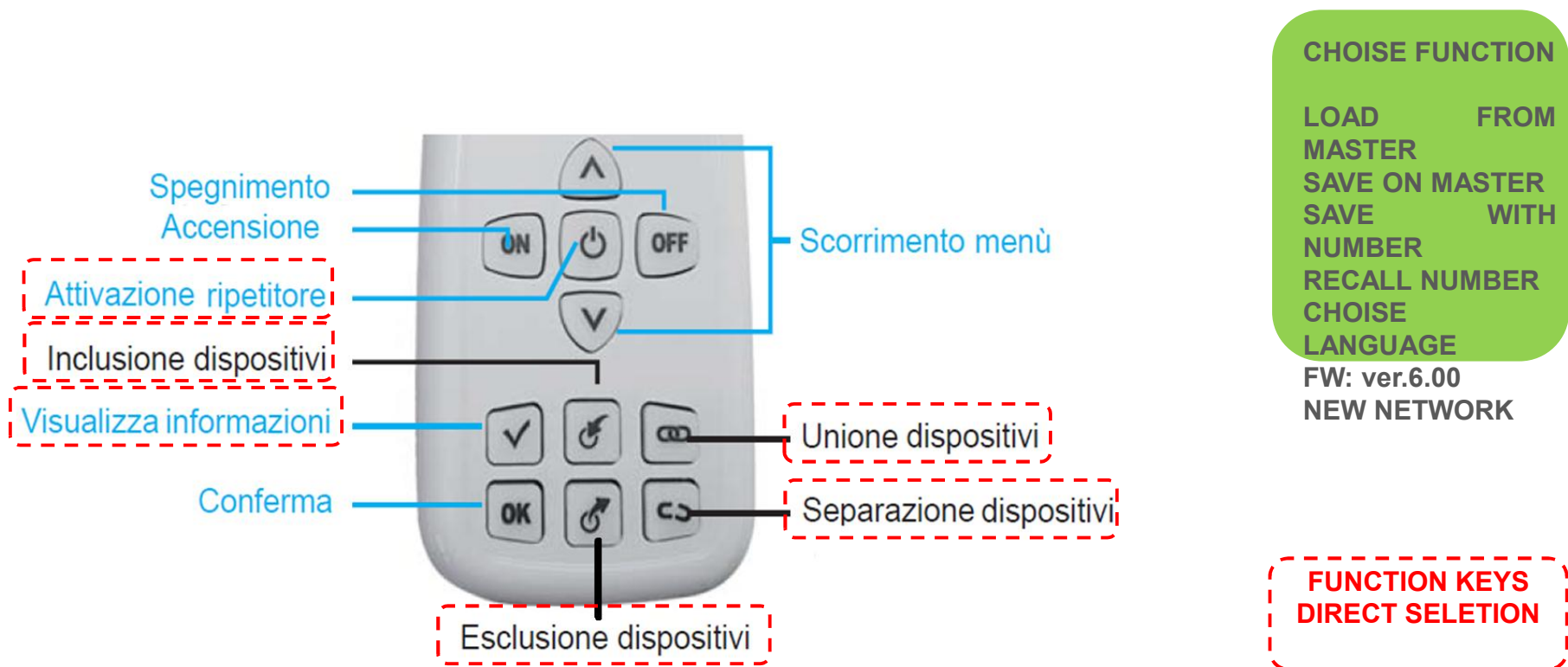
Is a mandatory equipment for the installer, during **installation** and for all **maintenance and/or modification** of the system over time.



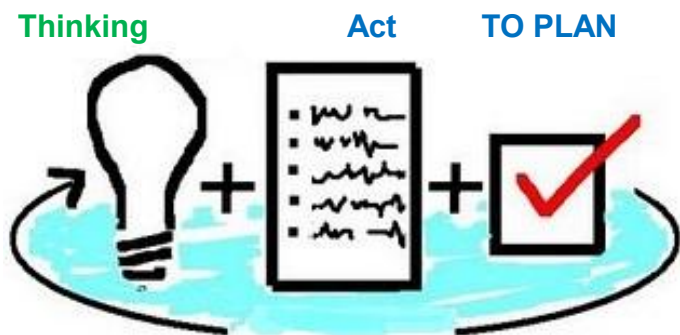
Configurator/programmer, in wireless mode, communicates with the various devices of the system to carry out all initializations/programming necessary for the commissioning of the system.

The configurator/programmer has a **LCD screen with a scrolling menu** showing all functions **and FUNCTION KEYS with direct selection.**

Operatively is driven by messages shown in the LCD **screen.**



Important: Verify if the configurator has the last FIRWARE version (... for more details see page 27)



Being a SYSTEM it is essential to define :

- *WHAT HAVE TO BE DONE...*
- *HOW TO DO IT...*
- *IF THERE ARE THE CONDITIONS TO DO...*

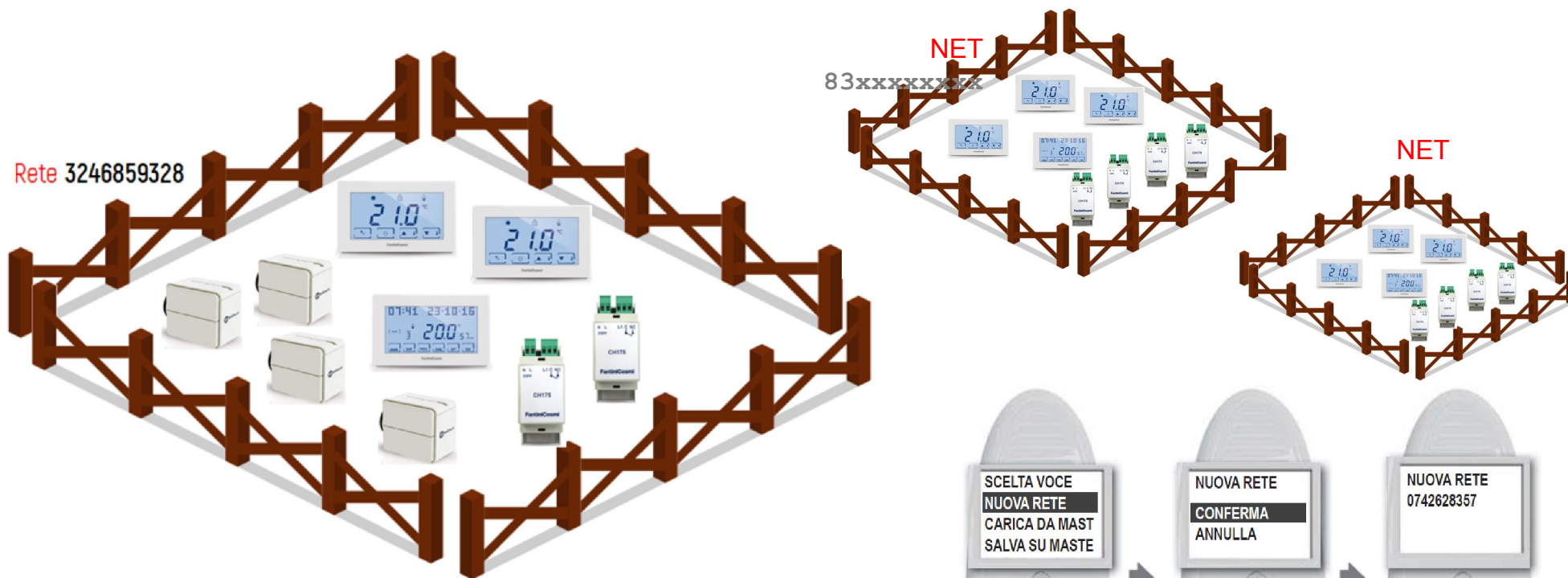
Impianto 2 ZONE (modalità riscaldamento caldo/freddo radiante + deumidificazione)

Zona	TA di zona	Descrizione ubicazione	Attuazione relè locale	Attuazioni remote
1	CH180RFWiFi	Zona GIORNO	Abilitazione comando radiante Zona 1 (4 termoattuatori)	NR. 1 Attuatore CH175 (comando deumidificatore) NR. 1 Attuatore CH175 (comando commutazione INVERNO/ESTATE)
2	CH120RF	Zona NOTTE	Abilitazione comando ON/OFF radiante camera 1	---

Impianto 7 ZONE (modalità riscaldamento con nr. 8 radiatori)

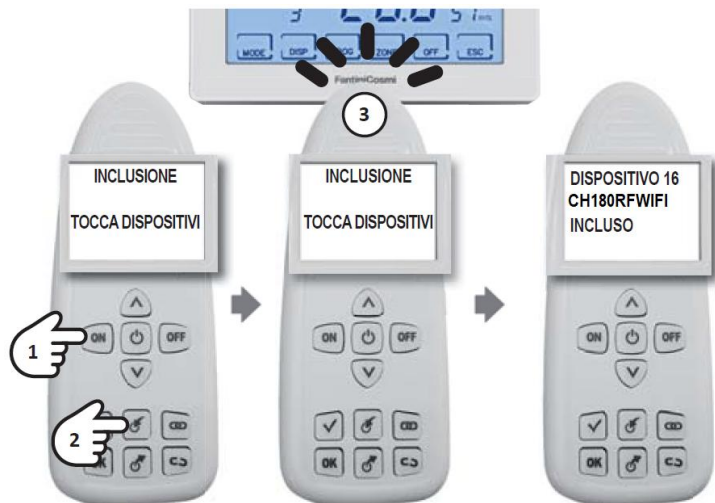
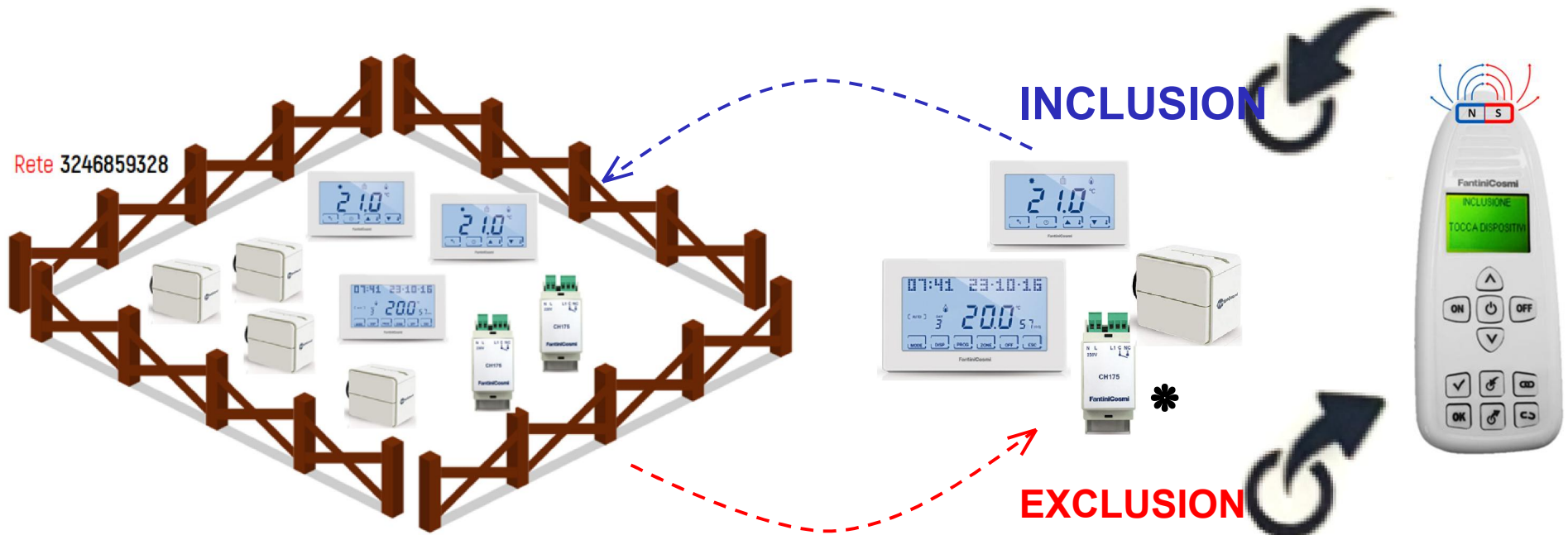
Zona	TA di zona	Descrizione ubicazione	Attuazioni relè	Attuazioni radiatori
1	CH180RFWiFi	INGRESSO	Uscita relè locale abilitazione comando ON/OFF caldaia (*)	NR. 1 Testina O60RF
2	-	SOGGIORNO	-	NR. 2 Testine O60RF
3	-	CUCINA	-	NR. 1 Testina O60RF
4	-	CAMERETTA 1	-	NR. 1 Testina O60RF
5	-	BAGNO	-	NR. 1 Testina O60RF
6	-	CAMERA M.	-	NR. 1 Testina O60RF
7	-	CAMERETTA 2	-	NR. 1 Testina O60RF

System **NETWORK**, means the set of components that concur to achieve the complete thermoregulation system. The belonging of the various components to a **NETWORK** allows multiple systems to share the ether without interfering with each other, thanks to the **unique numbering** tht is attributed to each **NETWORK**.



One **NETWORK** and its **unique numbering** is created with the **CONFIGURATOR** (menu item **NEW NETWORK**)

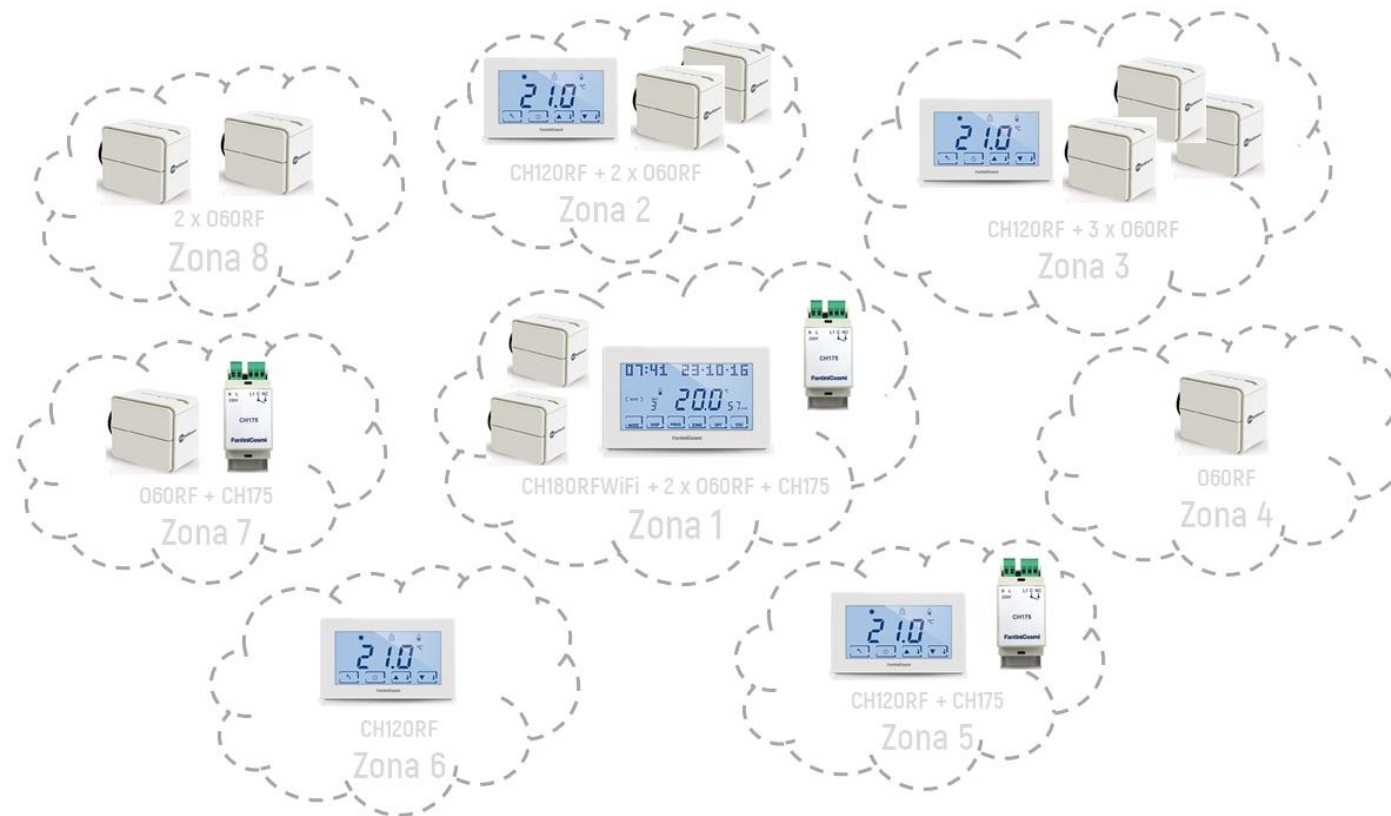




INCLUSION of one component in the **NETWORK** is made by selecting the **specific key** and **touching** later the component.

In the same way, can be done the **EXCLUSION** of one component, via the **dedicated key** for such an operation.

(*) **Important:** already in this stage, to the actuator CH175 must be assigned the «type of implementation» to which the device must perform.



Referring to the Sample System mentioned, once the NETWORK was created, proceed including all devices in this order:

- **WEEKLY PROGRAMMER THERMOSTATO CH180RFWiFi** (... which will be marked with ID16)
- **Four THERMOSTATS CH120RF** (... which will be marked with ID17÷ID20)
- **Eleven ACTUATORS O60RF** (... which will be marked with ID21÷ID31)
- **Three ACTUATORS CH175** (... which will be marked with ID32÷ID34)

Important: firstly must be included the CH180RFWiFi.

The **UNION** among all components of the **NETWORK** **relates them in a respective zone**, based on the functions to be done.

In other words, **with the UNION are effectively created the ZONES** (maximum 8) of the system, giving to each of its components the function of **DETECTION** and/or **ACTUATION** necessary for executing regulation of temperature and humidity.

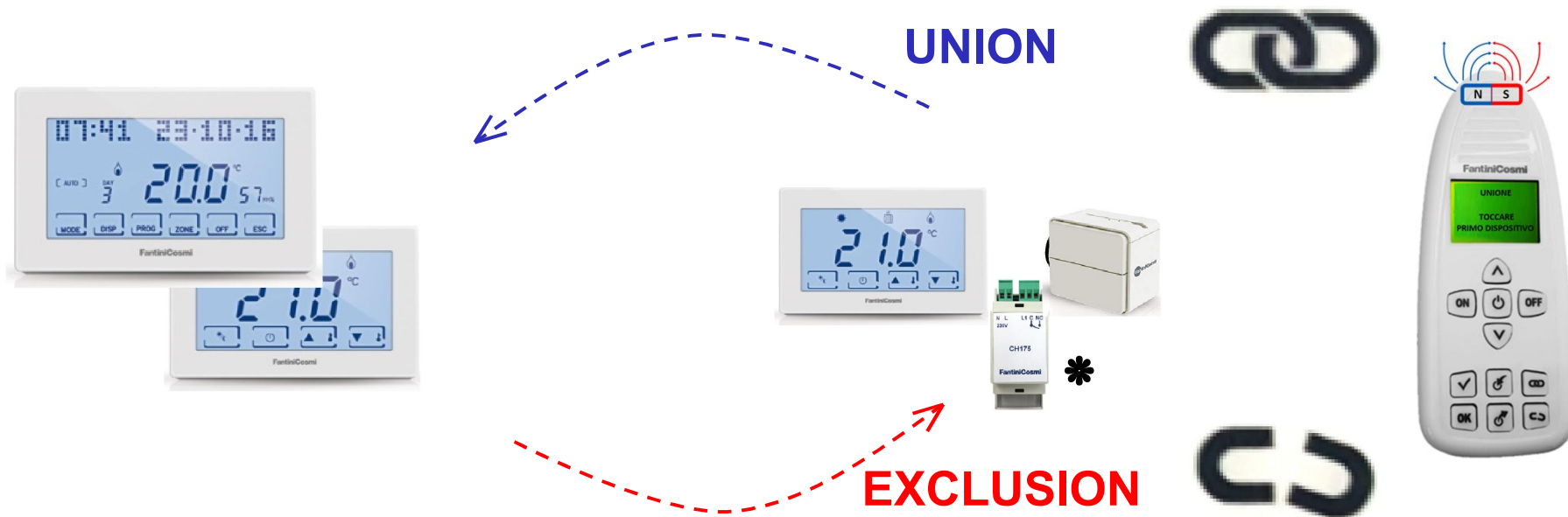
With UNION is created the hierarchical relationship between the components, that is each device is merged with its hierarchical «referent» in the system.

Some examples of UNION that can be done:

CH180RFWIFI with **O60RF** and/or **CH175** ... radiators actuators and/or relay in **Zone 1** or in **Zones unattended by thermostats**.

CH180RFWIFI with **CH120RF** ... the thermostat that **will attend one Zone**;

CH120RF with **O60RF** and/or **CH175** ... radiators actuators and/or relay modules in **Zone attended by thermostat**.



UNION is carried out by pressing the specific function key and tapping, in the right sequence the devices with each other, as proposed by the messages on the configurator viewer.

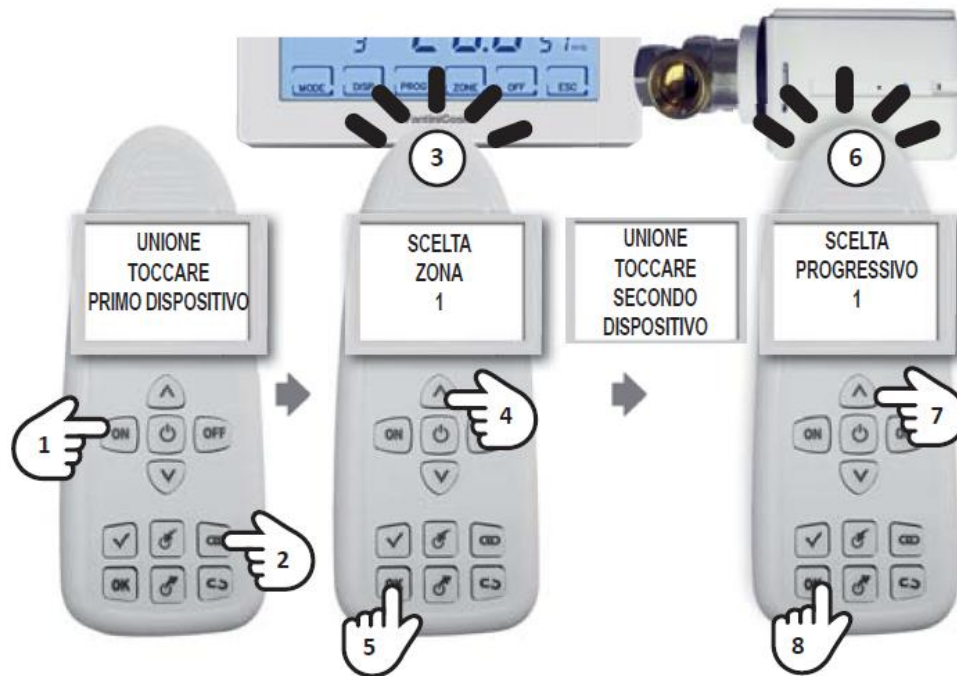
The «**FIRST DEVICE**» to be touched may only be:

- a **CH180RFWIFI** for **ZONE 1** or other zones unattended by thermostat;
- a **CH120RF** for **ZONES** attended by thermostat.

During UNION, is asked to assign a progressive, that is a number that **uniquely identifies** the component to be joined in the area.

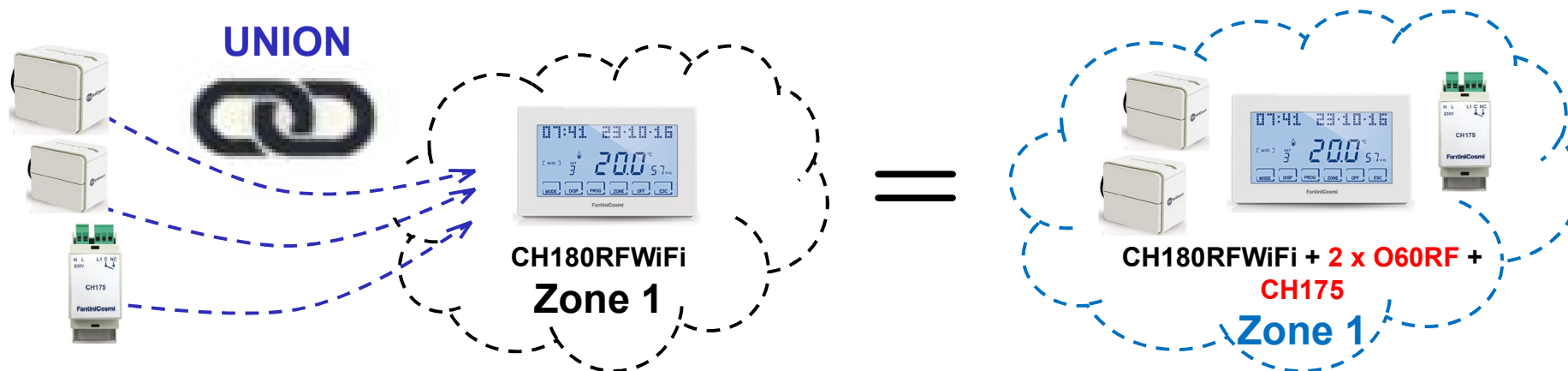
Attention!

The **progressive must be absolutely different** from that of other components of the same ZONE.
The configurator does not signal any duplication of the progressives which, if they occurs, prevent the diagnosis and identification of faults/anomalies.



< Example:
 Union O60RF in ZONE 1 with progressive 1

ZONE 1 is that one attended by **WEEKLY PROGRAMMABLE THERMOSTAT CH180RFWiFi**, to which can only be joined radiators actuators **O60RF** and/or actuators **CH175**



When joining the ZONE (ZONE 1 SELECTION) of a device, the configurator will ask you to assign in a identifier (PROGRESSIVE SELECTION); therefore in the example, assuming this sequence in the order:

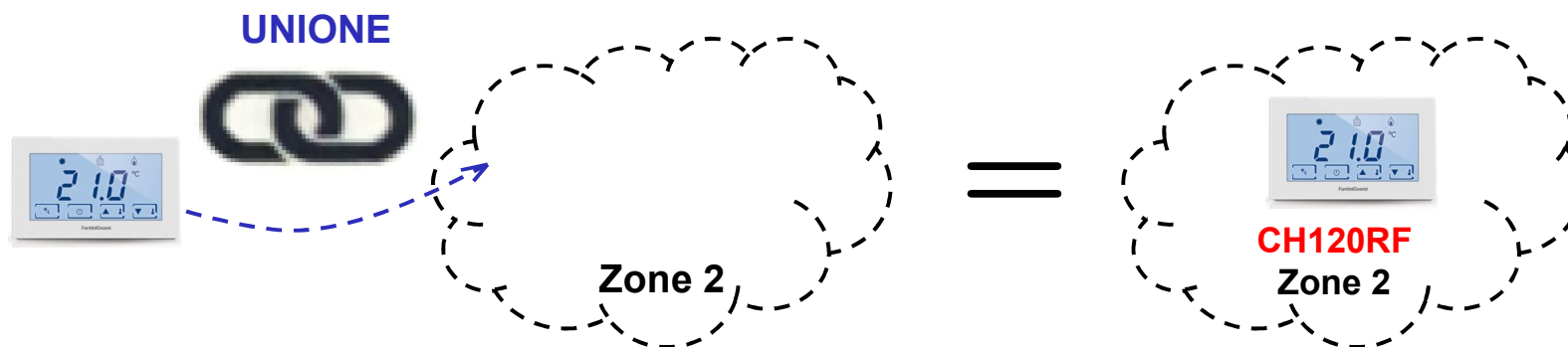
- to 1° O60RF when a progressive is asked, confirm PROGRESSIVE 1
- to 2° O60RF when a progressive is asked, confirm PROGRESSIVE 2
- to CH175 when a progressive is asked, confirm PROGRESSIVE 3

*In the example: «FIRST DEVICE» to touch will always be CH180RFWiFi,
«SECOND DEVICE» to touch, will be the two O60RF and then the CH175.*

To create a ZONE attended by THERMOSTAT TERMOSTATO CH120RF, two steps are necessary :

- To join the THERMOSTAT to the zone
- To join the DEVICES in the zone (if needed/ required) to the THERMOSTAT.

1° step: union THERMOSTAT to the zone



In joining the thermostat **CH120RF** to a zone, the progressive is not requested, as there can only be one thermostat in one zone.

In the example: «FIRST DEVICE» to be touch always the CH180RFWiFi,
«SECOND DEVICE" to be touch CH120RF .

Attention: the UNION returns the thermostat to the factory configuration, therefore, any local settings(e.g. relay function configuration) previously set, must be reset.

2° step: union DEVICES in a zone



When joining the **ZONE THERMOSTAT** of a device, the configurator asks to assign in the **identification** (PROGRESSIVE CHOICE); therefore in the example, assuming this sequence in the order:

- to 1° O60RF when progressive is requested, confirm PROGRESSIVE 1
- to 2° O60RF when progressive is requested, confirm PROGRESSIVE 2

In the example: «FIRST DEVICE» to touch will always be CH120RF,
«SECOND DEVICE» to touch, both O60RF.

At the end of the configuration operations, it is advisable to check the correct programming of the system devices; this procedure is also adopted during maintenance interventions to carry out troubleshooting and/or check the operating status of the actuators for radiators and/or relay modules.



Checking the configuration/status of a device is carried out by pressing the specific function key and then tapping the device that you want to control, as proposed by the messages on the configurator viewer.

With this procedure the FIRMWARE version of the various system components is also checked (see info on page 27).

CH180RFWIFI
ID 16
FW:C.6.0 R.000

Indication legend of CH180RFWIFI:
CH180RFWIFI component type
ID 16 Identification number
FW:C.6.0 R.000 firmware version

CH120RF
ID 17 Z.02
FW:6.00 R.000

Indication legend of CH120RF:
Component type
ID 17 Identification number
Z. 02 Belonging to Zone 2÷8
FW:6.00 R.000 firmware version

O60RF F600 Id21
Z1Pr01 Ta17,0
Bat098% Ap067%

Indication legend of O60RF:
O60RF Component type
F600 firmware version
Id21 Identification number
Z1 Belonging to Zone 1÷8
Pr01 Progressive device 1÷15
Ta17,0 Temperature detected by the actuator
Batt098% batteries level
Ap067% a valve open 0%=closed 100%=open

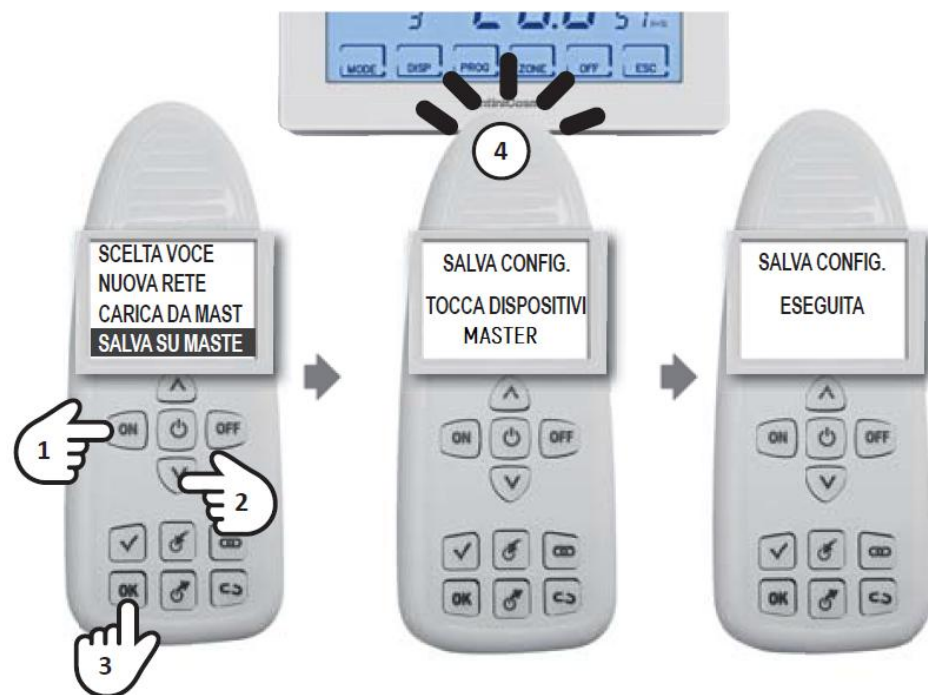
RIS GEN
ID 32 PR 03 Z 01
R.OFF FW6.03

Indication legend of CH175:
RIS GEN GENeral HEAting
ID32 Identification number
Pr 03 Progressive device 1÷15
Z 01 Belonging Zone 1÷8
R.OFF Relay OFF
FW6.03 firmware version

Once a **NEW NETWORK** is created, even if the programmer turns off (automatic time-out of 60 sec.) or is turned off intentionally, **the network number is not lost/delated**. In this case, turn the programmer back on and proceed with operation without creation a new NWTWORK, otherwise the previously created will be delated.

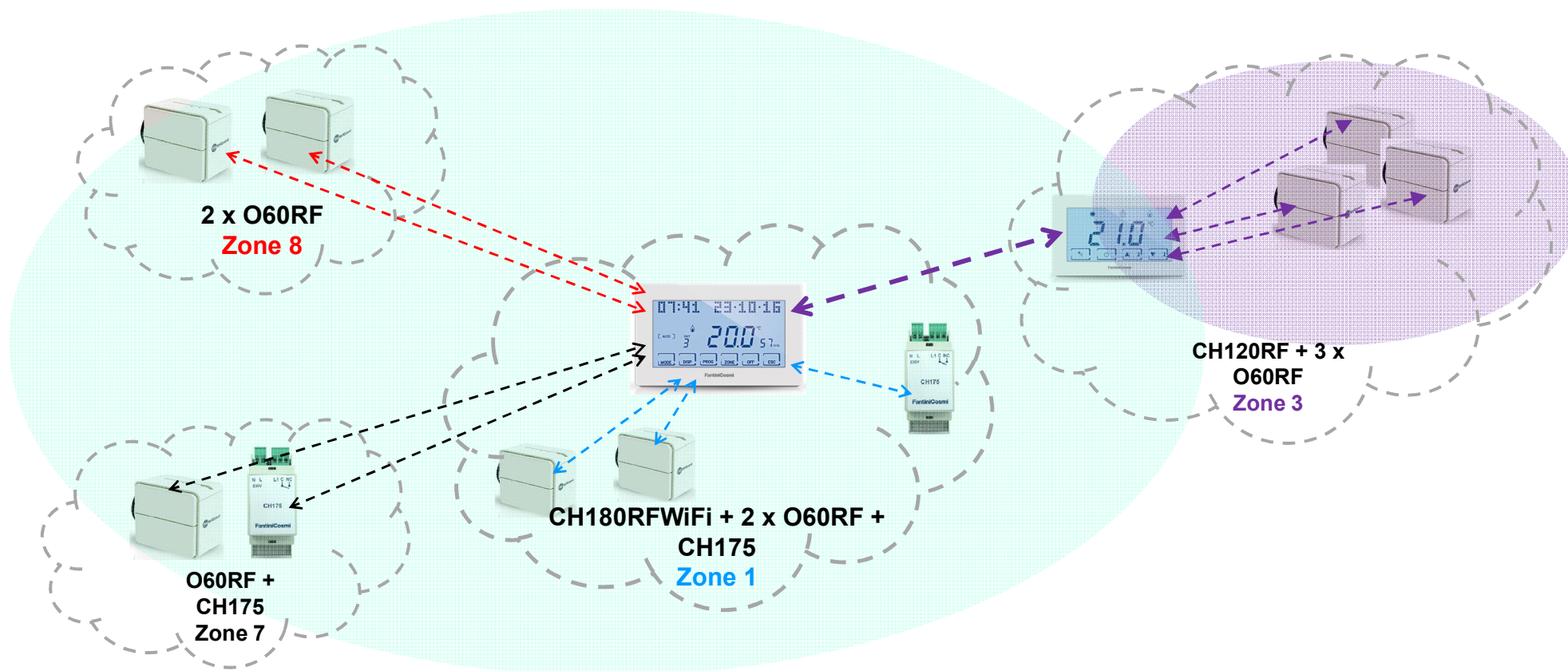
In this case, **turn the programmer back on** and **proceed with operation without creating a NEW NETWORK**, otherwise the previously created will be deleted.

During all the various programming phases (Inclusion/Exclusion, Union /Separation, Saving on Master, Loading from Master et c. it is always necessary to wait for the successful outcome of the operation. If this does not happen, **repeat the operation again that was not success**.



At the end of the configuration/programming of the entire system, **save the configuration on the chronothermostat**, selecting the menu item **SAVE ON MASTER**, then touching the CH180RFWiFi and waiting for the success of the operation.

If you do not save the configuration on the CH180RFWiFi, the system still works. However, the possibility of caring out functional maintenance and diagnosis of the system is no longer possible due to the impossibility of editing the configuration.



The devices belonging to **ZONES** not manned by a **THERMOSTAT** communicates with the main **CHRONOTHERMOSTAT**, therefore they must necessary be within the radio range. The devices that are part of a **ZONE** manned by a thermostat will therefore be the only device to communicate exclusively with the latter; the **ZONE THERMOSTAT** will therefore be the only device to communicate with the weekly programmer thermostat and must necessary within radio range.

The devices that are **part of a ZONE** manned by a **THERMOSTAT** communicate exclusively with the latter; the **ZONE THERMOSTAT** will therefore be the only device to communicate with the **WEEKLY PROGRAMMER THERMOSTAT**.

Evaluate during the budgeting phase if it is better to prepare a CH120RF rather than insert a CH175 exclusively intend as a repeater.

To ensure the reliability of the system/plant over time, it is essential that the FIRMWARE versions of the various components are consistent with the following table:

- **CH180RFWiFi**
Weekly programmable thermostat V1.1
Radio Module FW:C.60 R.000
(available from menu PROG AVANZ.)
(available by key ✓ from programmer)

- **CH120RF**
Thermostat F2.9
Radio Module FW: 6.00 R.000
(available for 5 sec. Inserting batteries)
(available by key ✓ from programmer)

- **1590880**
Programmer FW: 6.00
(visible in the choices of the scrolling menu)

- **O60RF**
Radiator valve F600
(available by key ✓ from programmer)

- **CH175**
Actuator relay FW6.03
(available by key ✓ from programmer)

Important: devices with FW versions prior to those indicated above, must be replaced/updated.



1590880 configurator
5679865B.pdf



CH180RFWiFi instruction manual
5679898A.pdf



CH120RF instruction manual
5679844C.pdf

Only the quick guide for installing the devices is included in the package of the Chrono thermostat and thermostat; to have and consult the information necessary for commissioning the system, the manuals indicated above must be downloaded from the website.

Impianto Termoregolazione (rif. test)

Schema dell'impianto

Impianto ___ ZONE (modalità _____)

Zona	TA di zona	Descrizione ubicazione	Attuazioni del relè locale	Attuazioni WIRELESS (radiator/relè)
1	CH180RFWiFi			
2				
3				
4				
5				
6				
7				
8				

Note:

.....

.....