

MY HOME - SAVING TEMPERATURE CONTROL

NEW LINE





SECTION CONTENTS

- 116 General features
- 122 Catalogue
- 124 General rules for installation

MY HOME temperature control

The ideal temperature, when and where you want

THE KEY ADVANTAGES OF ZONE TEMPERATURE CONTROL

COMFORT

A different temperature profile in every room

UP TO 30% SAVING

Depending on the type of system saving on consumption pays for the system in a few years

NEW

Temperature control unit

WITH ALL THE ADVANTAGES OF A MY HOME SOLUTION

- FLEXIBILITY
- SIMPLICITY
- FITTING IN
- SECURITY



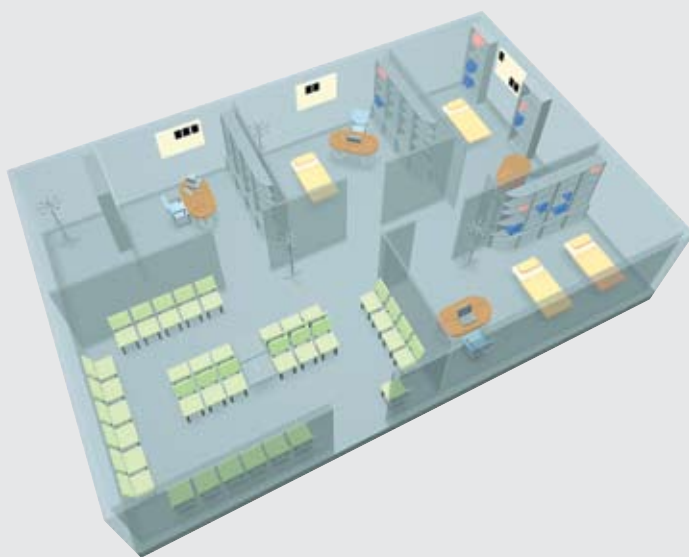
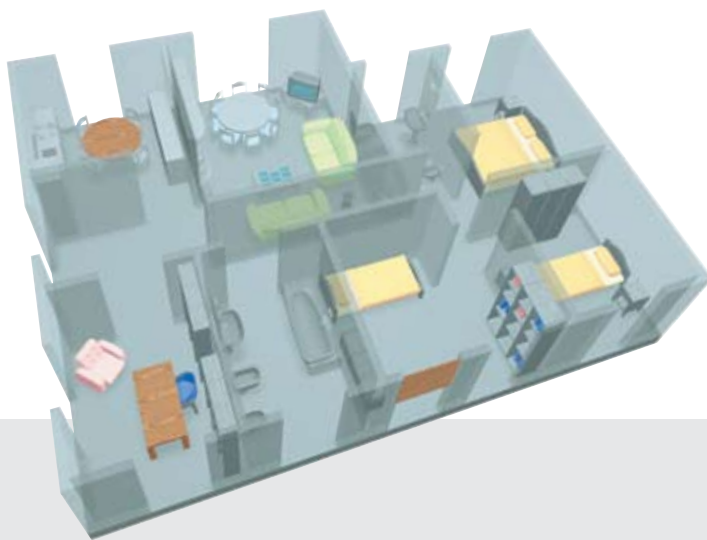
MY HOME

The ideal solution for every application

- TERRACED HOUSE
- LARGE HOME



- SMALL COMMERCIAL SECTOR
- OFFICE



TEMPERATURE CONTROL
NEW

...and for all types of system

RADIATORS



FAN-COIL



RADIANT PANELS

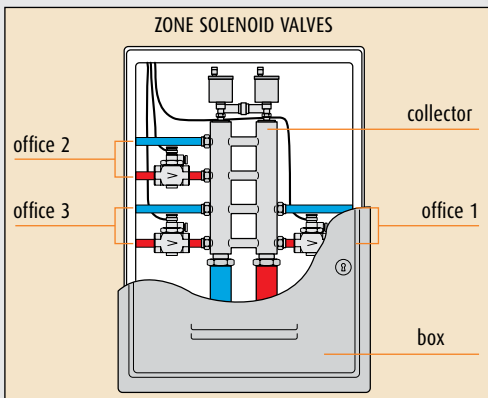
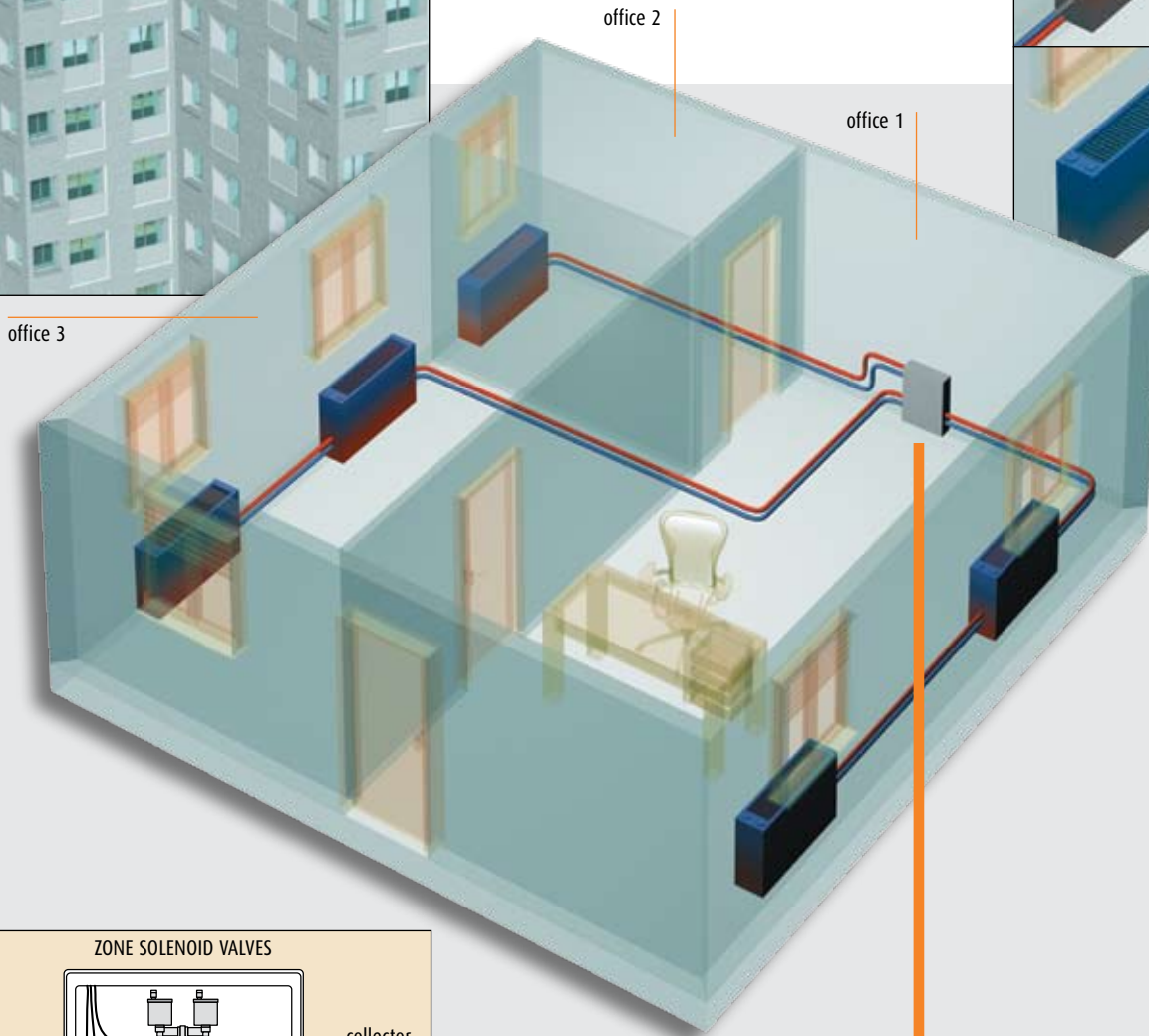
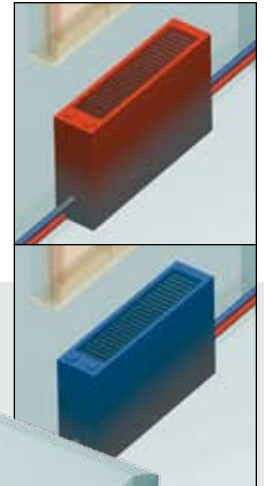


Heating and cooling system examples

OFFICE WITH FAN-COIL HEATING AND COOLING



FAN-COIL FOR HEATING AND COOLING



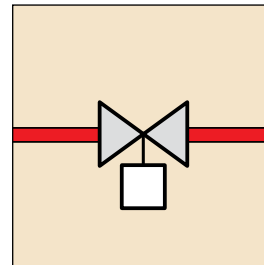
Hydraulic system design

TYPE OF SOLENOID VALVE

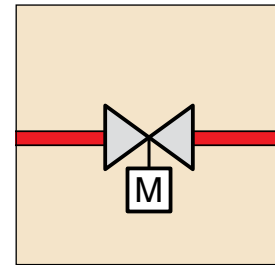
In a hydraulic system the zones are built up physically using solenoid valves. Each zone can thus be managed independently by controlling the individual solenoid valves.

2 types of solenoid valves are used in the systems:

- ON/OFF, which requires an ON/OFF contact
- Open/Close, which requires an Open/Close contact



ON/OFF solenoid valve



Open/Close solenoid valve

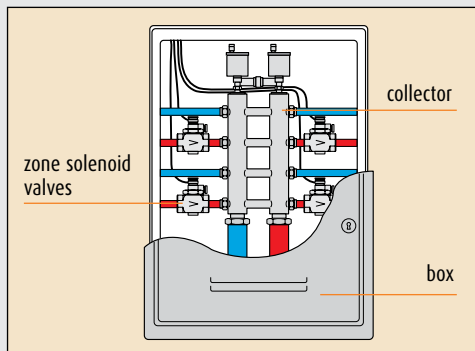
PLACING THE SOLENOID VALVES

In heating systems the typical installations has all the solenoid valves positioned on the collector, grouped in a box in the boiler room. In dwellings on several floors this solution can be replicated for each floor.

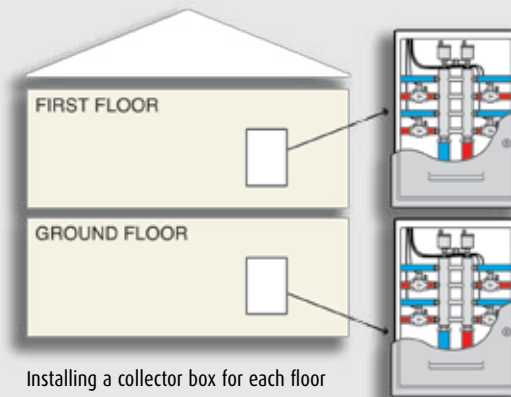
In fan-coil systems the solenoid valve can be installed

inside the fan-coil itself.

In 2-tube systems there is just one solenoid valve for both the heating and cooling functions. In 4-tube systems there are 2 solenoid valves, one each for the heating and cooling functions.

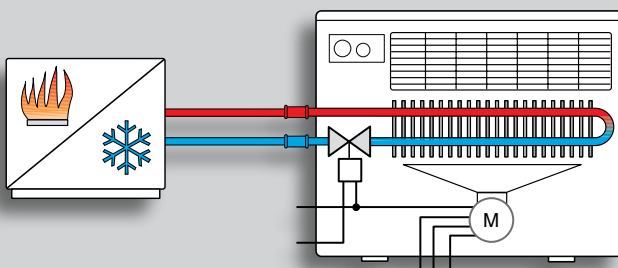


Installing the solenoid valves in the collector box

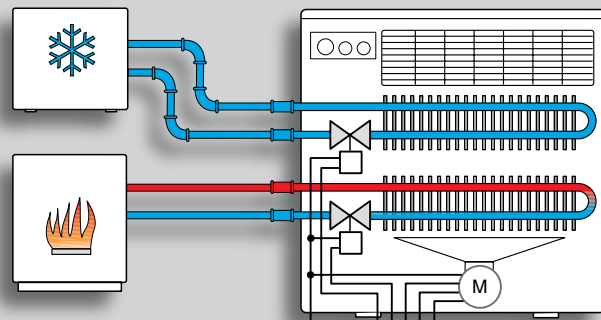


Installing a collector box for each floor

Installing the solenoid valve in a 2-tube fan-coil



Installing the solenoid valve in a 4-tube fan-coil



Designing a hydraulic system

PLACING THE SOLENOID VALVES IN RADIANT PANEL SYSTEMS

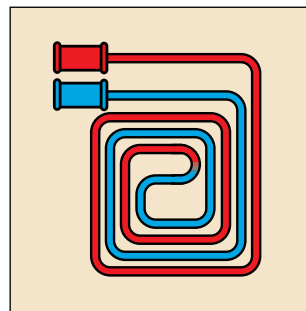
Radiant panel systems are always managed in zones and their solution is very similar to that of radiator systems.

The zones are built up by means of solenoid valves grouped on the collector, but there is also a water mixture valve.

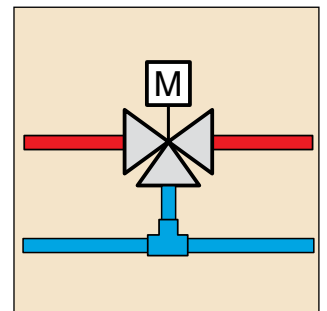
This valve is proportional and cannot be controlled by the My Home temperature control.

This valve mixes the water so that a set water temperature limit and thus floor temperature limit is not exceeded, which could be annoying and dangerous.

For this reason this valve must be controlled by a unit supplied by the panel system manufacturer, or it is simply a thermostatic valve on which a fixed water temperature limit is set.

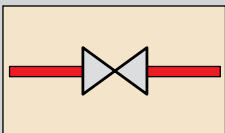


Radiant panels

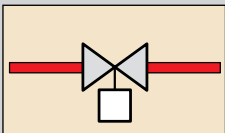


Three-way mixing valve

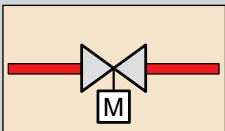
SYMBOL LEGEND



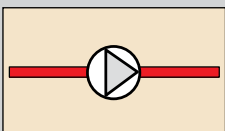
Valve general symbol



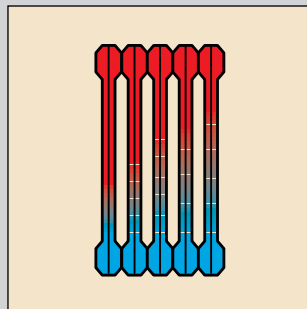
ON/OFF solenoid valve



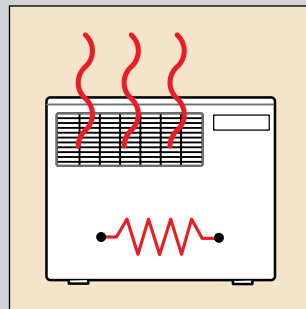
Open/Close solenoid valve



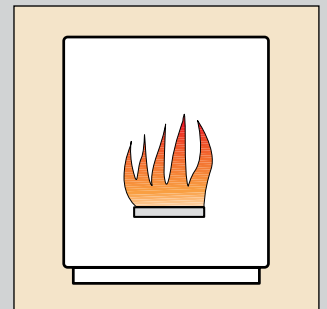
Pump



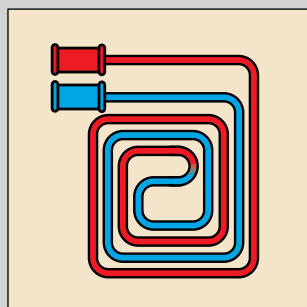
Radiator



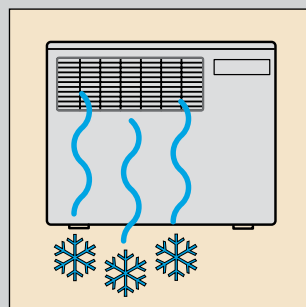
Electric radiator



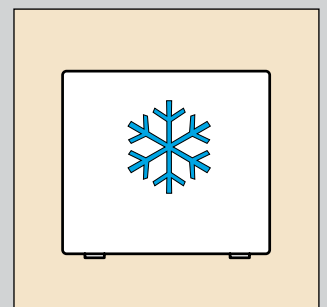
Boiler



Radiant panels



Fan-coil



Chiller

MY HOME temperature control

APPLICATION DEVICES

A My Home temperature control system can manage up to 99 zones. The system is on a 2 wire bus and made up of the following devices:

Temperature control unit:

this configures the system, customises the programs and displays information.

Sensors:

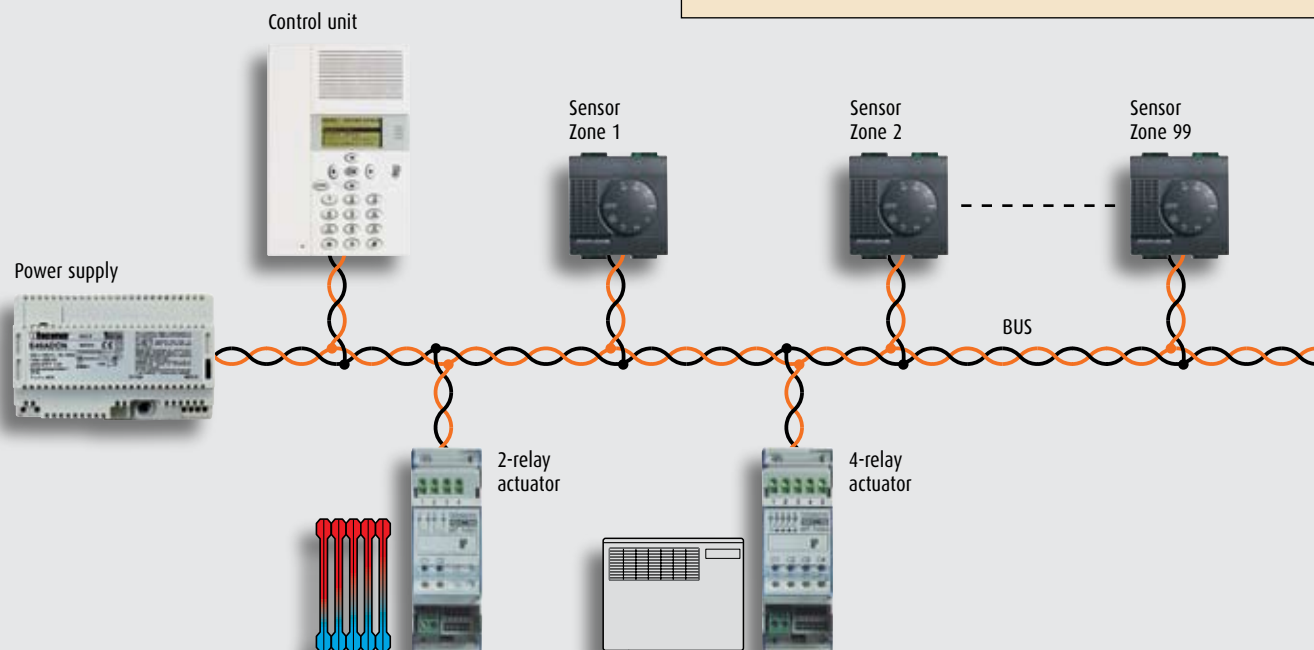
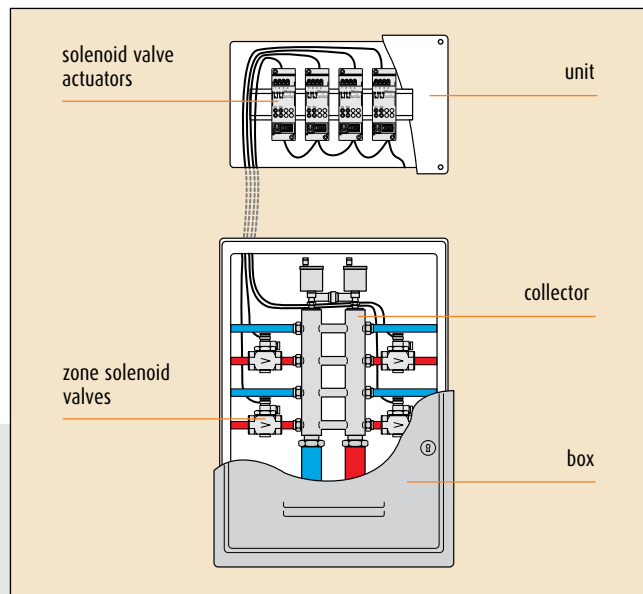
at least one sensor must be installed in every zone. They measure the room temperature and can locally vary the temperature set on the control unit.

Actuators:

operate the solenoid valves and the circulation pumps. The number and type of actuators are chosen depending on the type of solenoid valves installed and their location in the system.

Just one contact is used to control the ON/OFF solenoid valves, while the two-relay interlock is used for the open/close solenoid valves. The four-relay actuator controls the fan-coils and also automatically controls the 3 speeds.

The ideal system solution is to have the solenoid valves grouped on the collector, so that a board can be made containing the actuators near the box. This makes wiring simpler with a small number of actuators.



Devices



3550



3507/6

CONTROL UNIT

Item	Description
3550	control unit to manage the temperature control system

BATTERY

Item	Description
3507/6	6V 0.5Ah battery for temperature control unit



L4692



N4692



NT4692

SENSOR

Item	Description
L4692	sensor to regulate the room temperature for heating and cooling systems - temperature control field 3 - 40°C -
N4692	two Living International, Light or Light Tech modules
NT4692	two Living International, Light or Light Tech modules



F430/2



F430/4

ACTUATORS

Item	Description
F430/2	actuator with 2 independent relays - for single and double loads: 6A resistive, 3A motorised valves and pumps - logic interlock of the relays by means of configuration - 2 DIN modules
F430/4	actuator with 4 independent relays - for single, double or mixed loads: 6A resistive, 3A motorised valves, pumps and fan-coils - logic interlock of the relays by means of configuration - 2 DIN modules


 E46ADCN
E46ADCN/110
E46ADCN/127

 L4669
L4669/500

POWER SUPPLY

Item	Description
E46ADCN	power supply for BUS systems - input 230V a.c. output 27V d.c. SELV - maximum current absorbed 300 mA - maximum current supplied 1.2A version for fastening on DIN rail with size 8 modules
E46ADCN/110	as above - input 110V a.c.
E46ADCN/127	as above - input 127V a.c.

SHEATHED PAIR

Item	Description
L4669	sheathed pair made up of 2 flexible conductors with plaited and unshielded sheath for burglar-alarm system or automation system - insulation 300/500V - corresponding to standards IEC 46-5 and IEC 20-20 - coil length 100 m
L4669/500	as above - in 500 m coil

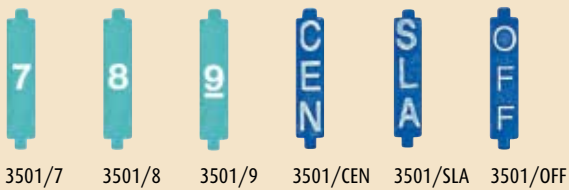
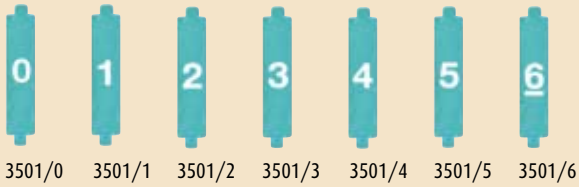


3515

PULL-OUT TERMINALS

Item	Description
3515	spare pull-out terminals

Accessories



CONFIGURATORS – SINGLE-TYPE 10 PIECE PACKAGE

Item	Description
3501/0	configurator 0
3501/1	configurator 1
3501/2	configurator 2
3501/3	configurator 3
3501/4	configurator 4
3501/5	configurator 5
3501/6	configurator 6
3501/7	configurator 7
3501/8	configurator 8
3501/9	configurator 9
3501/OFF	configurator OFF
3501/SLA	configurator SLA
3501/CEN	configurator CEN

CONFIGURATOR KIT

Item	Description
3501K	Kit of configurators from 0 to 9
3501K/1	Kit of AUX, GEN, GR, AMB, ON, OFF, O/I, PUL, SLA, CEN, ↑ ↓, ↑↓M configurators



WALL-MOUNTED BOXES FOR MODULAR DEVICES

Shallow wall-mounted box for wall insulation – fitted with anti-tamper device – 2 modules – complete with surround plate and, in the Light version, white (LB) cover plate

Item	Series	Fitted with
502LPA	Living International	surround plate
502NPA	Light - Light Tech	surround plate + LB cover plate

TABLE DEVICE-HOLDERS

Item	Description
504LIV	table device-holder – 4 Living International modules – complete with surround plate

GENERAL RULES FOR INSTALLATION

Layout of the building

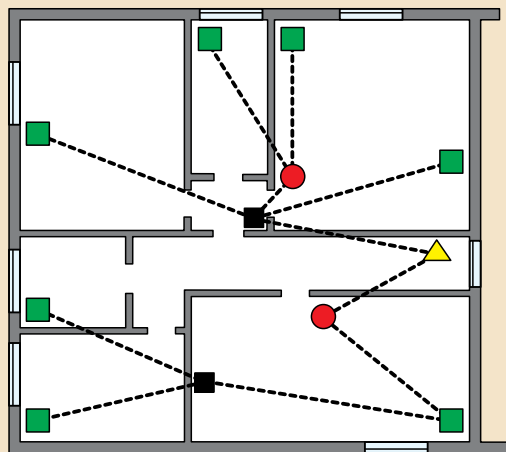
Installation of Temperature control items does not interfere with the concepts of traditional systems but requires taking some precautions in the design phase.

The BUS cable can share the trunking used for the traditional energy line, made with traditional concealed trunking or with trunking for wall mounting. This solution allows quicker installation and less work on the wall structure. Regardless of the installation solutions adopted, it must be remembered that if a generic telephone pair is used, it must be kept separate from the power line. This limitation does not apply when using the sheathed BUS cable supplied by Bticino, which has 300/500 V insulation voltage. The same conduits can thus be used for the power cables and the BUS line. It is good practice to provide junction boxes in the home for the electric power services and for the star distribution of the BUS cable to the various devices. Whenever the radiator valves are to be operated or fan-coils controlled, the electric power services and BUS cable should also arrive near the heat exchangers.

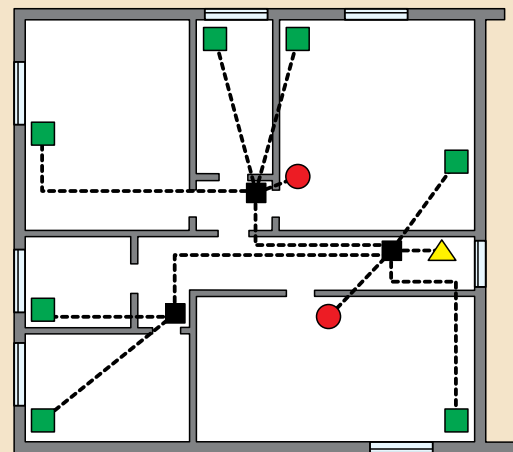
If the zone interceptions, made by means of solenoid valves or pumps installed immediately after the collector, are in the same box, all the actuators should be collected in a unit which should be installed near the box itself.

Provide device-holder boxes for the sensors with a capacity of two Living International/Light/Light Tech modules. Remember that there is a choice of two types of installation for the box: flush-mounted or wall-mounted. In both cases the installation must be at a height of about 1.5 metres from the floor, away from the heat exchangers and sources which could affect the temperature reading.





EXAMPLE OF BUS AND ELECTRIC POWER DISTRIBUTION IN A BUILDING



Star



Combined

-  power supply
-  actuator
-  sensor
-  junction box

MAXIMUM NUMBER OF DEVICES

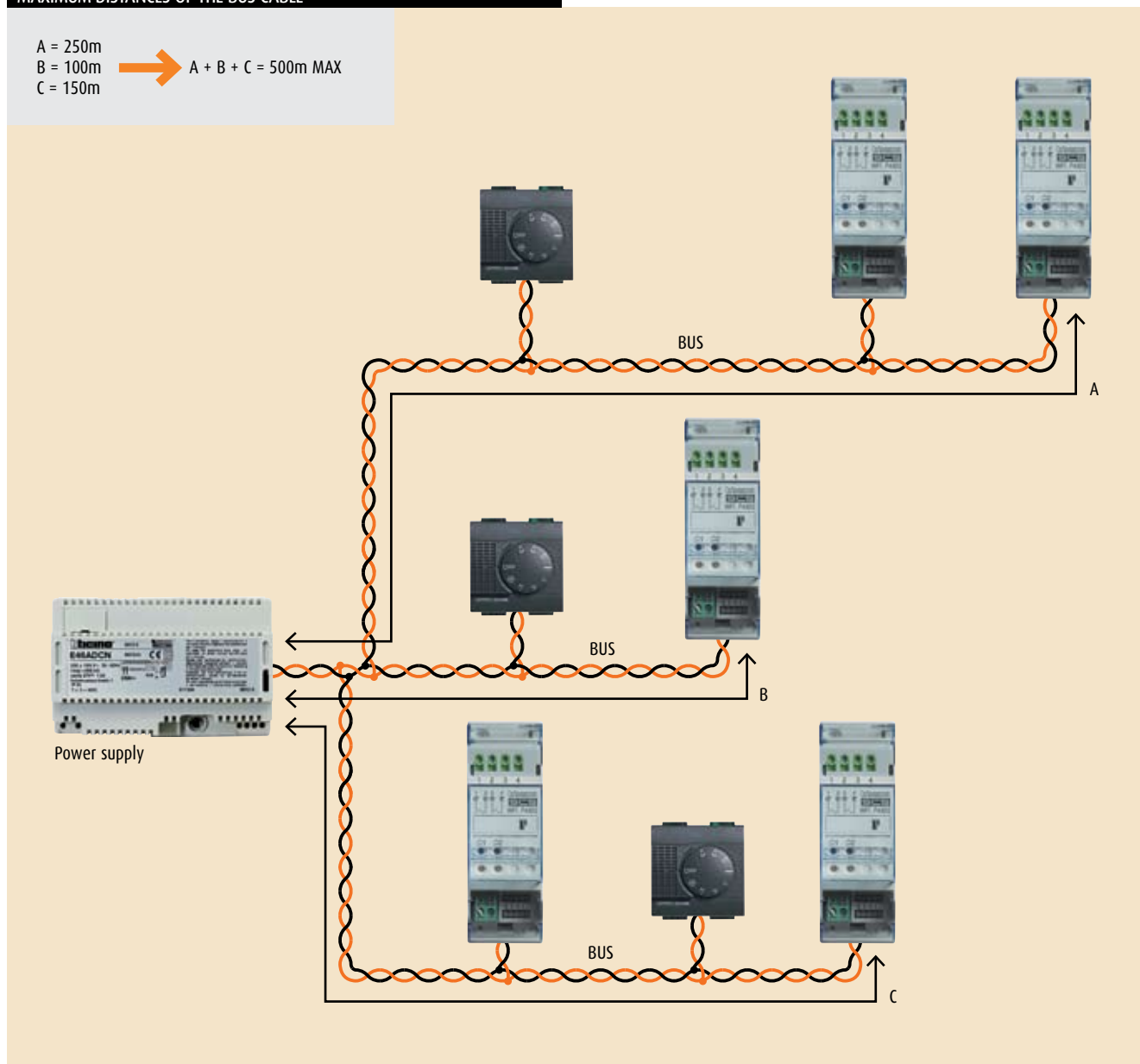
A system can manage up to 99 zone addresses. Up to nine addresses dedicated to the actuators can be managed for each zone. The maximum number of devices which can be connected to the BUS also depends on their total absorption and the distance between the connection point and the power supply. The power supply can supply up to 1.2 A and the maximum number of devices which can be connected to the BUS is determined by summing the absorption of all the items and making sure that the total does not exceed the capacity of the power supply. For the calculations mentioned above, refer to the "Maximum absorption" parameter expressed for each device in the "Technical features" section of this guide.

MAXIMUM DISTANCES OF THE BUS CABLE

A = 250m
B = 100m
C = 150m
→ A + B + C = 500m MAX

When calculating the absorptions the availability of current as a function of the length of the BUS cable must also be considered. During the sizing therefore respect the following rules:

- the connection between the power supply and the furthest device must not be more than 250 m long;
- the total length of the connections must not be more than 500m;
- the maximum current available at the end of a 250 m long telephone cable is 400 mA, while for a BUS cable item L4669 it is 600 mA;
- for best division of the currents on the BUS line the power supply should be installed in the middle.



GENERAL RULES FOR INSTALLATION

Layout of the buildings

EXTENSIVE SYSTEMS

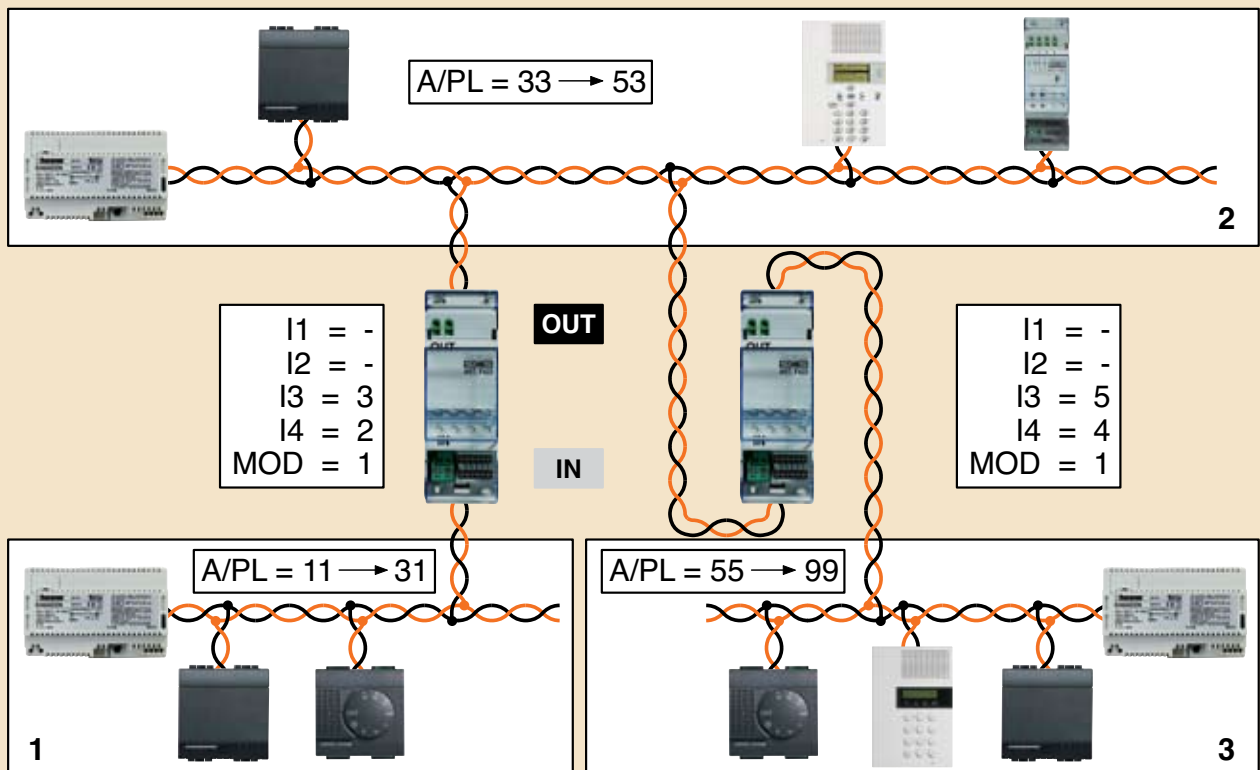
In large systems or systems which have current absorption greater than the limit of 1200 mA supplied by the power supply item E46ADCN, the system must be divided into several sections each supplied with its own power supply and connected by means of interface item F422 configured in "physical expansion" mode. It must be shown that the system limits, in terms of absorption and maximum wiring distance, as shown in this guide, are applied for each bus. A system made up of two or more buses, connected by interfaces configured in "physical expansion" mode, cannot therefore be supplied with just one power supply item E46ADCN, even if the number and types of component connected to the system would not involve exceeding the maximum expected absorption (1200 mA). To produce the "physical expansion" mode interface item F422 must be configured by inserting numeric configurator 1 in the MOD position. Positions 13 and 14 of the interface must be configured as a function of the two modes of use of the interface itself as indicated below:

a. If a bus system with only Temperature control devices must be extended, positions 13 and 14 of the interface must be configured with addresses 13 = 1 - 9 and 14 = 1 - 9 completely independent from the Temperature control device addresses;

b. If a bus system with Automation and Temperature control devices must be extended, positions 13 and 14 must be configured as a function of the configuration of the Automation devices in the two connected systems. Referring to the illustration, let us suppose that 13 = 3, 14 = 2:

- on the input bus (IN) the Automation device addresses must be between A = 1 / PL = 1 and A = 3 / PL = 1;
- on the output bus (OUT) the addresses must be between A = 3 / PL = 3 and A = 9 / PL = 9 or the address of the next interface. It should be stressed that all the Temperature control devices on the system section must be configured totally independently of the Automation device configuration. In any case no automation device must be configured with the same address (A, PL) as interface F422 (13, 14).

SYSTEM EXAMPLE



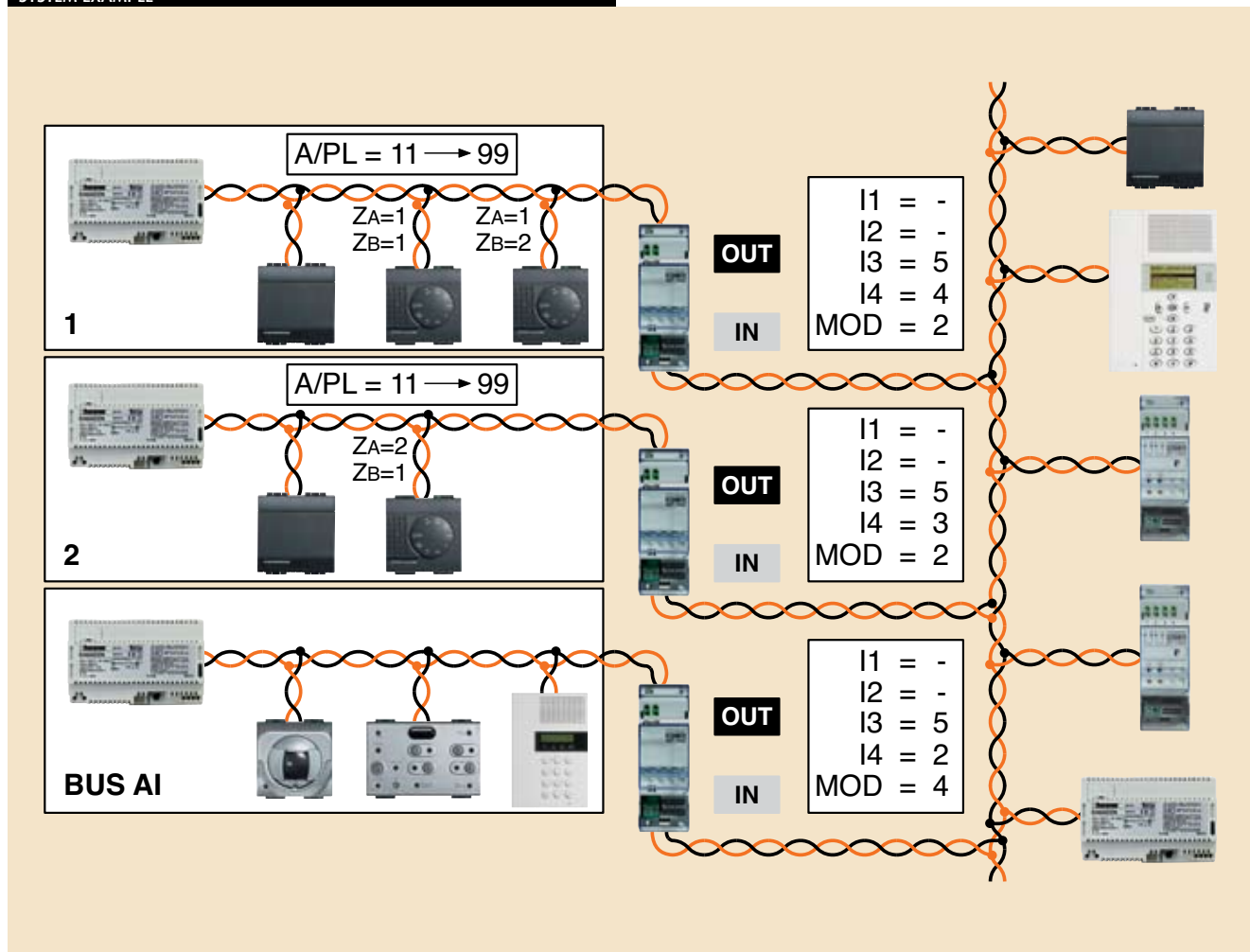
COMBINING WITH OTHER FUNCTIONS

The Temperature control function devices can share the same BUS cable as other My Home automation and emergency management applications (grey cable). If there is already a stable cable with the automation or power management BUS the Temperature control items can be added at any point in the system, after installing a box item 503E for the control unit item 3550, one or more boxes positioned at a height of 1.5 m for each temperature sensor and a unit with enough room for the DIN actuators.

The above is also valid if the pre-existing My Home system has several Automation systems connected using interfaces item F422 configured in the "logic expansion" mode.

For systems with "logic expansion" there is no installation limitation for the Temperature control devices, which can be installed at any point in the system. Thus, for correct system sizing, one only need check the length of the connections made with the BUS cable and the total device absorptions as specified in this document. For systems which also have the burglar alarm function, the Temperature control must not be installed on the same bus as the burglar alarm, but there must be an F422 interface between the two buses.

SYSTEM EXAMPLE



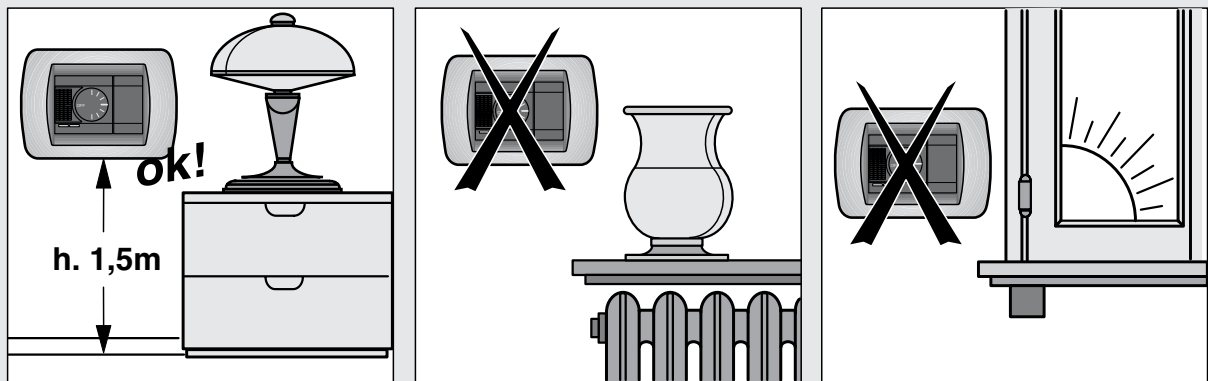
GENERAL RULES FOR INSTALLATION

Sensor Item L/N/NT4692

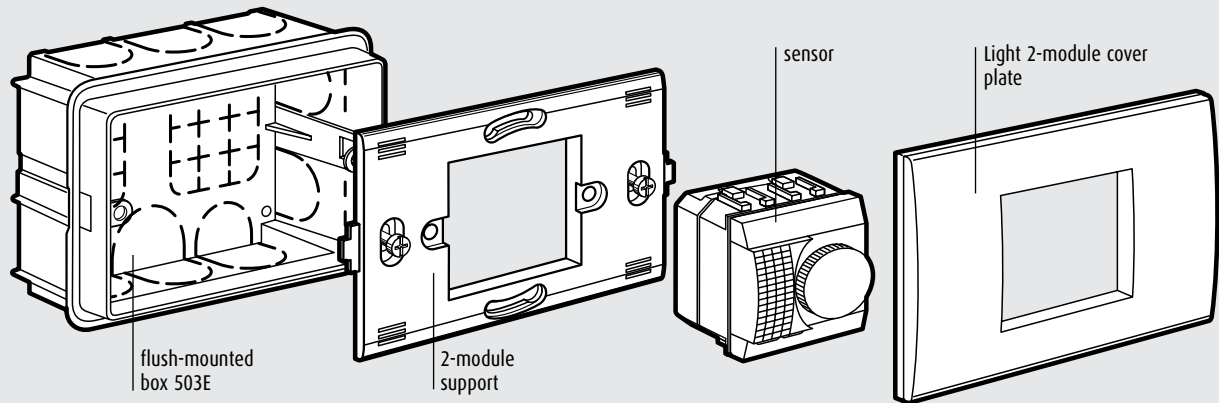
As required the sensor can be installed in either normal flush-mounted or wall-mounted containers. For both solutions the installation height must be about 1.5 metres from the floor and away from zones which could influence the temperature reading. Wall installation may be useful to solve the problem of already existing BUS systems which cannot be expanded. This type of container avoids the need for wall work and is available in both

Living International and Light series. To install the devices in the wall boxes correctly the protection cover on the bottom of the item must be removed. The anti-tamper device should also be removed from the wall-mounted boxes (only useful when using with burglar alarm items).

CORRECT MODE OF INSTALLATION



EXAMPLE OF FLUSH-MOUNTED INSTALLATION



EXAMPLE OF WALL-MOUNTED INSTALLATION

