



## CONTENTS

## MY HOME – Automation

General features . . . . .	60
Configuration . . . . .	84
General rules for installation . . . . .	94
Wiring diagrams . . . . .	104

# Introduction to the Automation system

The MY HOME Automation system allows you to manage functions in a simultaneous and integrated way. To date, these functions have been performed with special and complex electrical devices such as:

- lighting control
- control for shutters and/or electric curtains, fans, exhausters, etc.

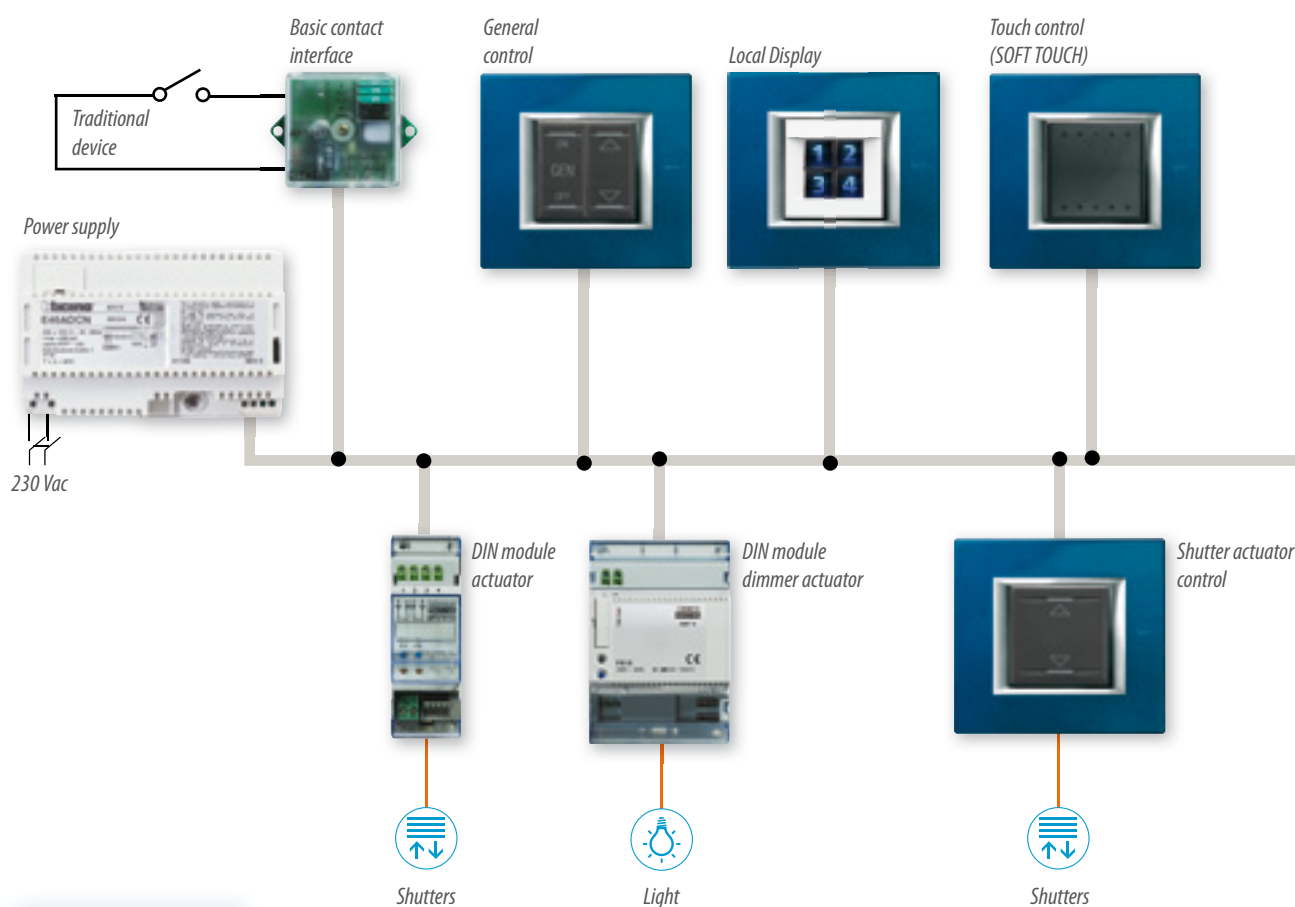
Compared to the devices of a conventional electrical system, Automation devices have an electronic circuit with

a programmable logic and are connected in parallel with a 2-conductor BUS cable for sending information and with low voltage (27V d.c.) electric power. There are two types of devices in the system:

- controls, connected only to the BUS cable;
- actuators, connected both to the BUS cable and to the 230V a.c. power line for managing the connected load.

If it is not possible to achieve a BUS system or if you want to expand a pre-existing system without any masonry work, the Automation system can be expanded with special wire/radio interfaces and radio control devices characterised by high installation flexibility.

## Wire system



The MY HOME Automation system devices are IMQ certified, as they comply with the **CEI EN 50428** standard "non-automatic control devices for fixed electrical home installations and similar uses".

When the Automation system devices are configured properly, it is possible to manage the load as follows:

- Control for a single load (lamp, shutters, etc.);
- Control for one or more load groups (for example, only the shutters on the first floor, north side, etc.);
- Simultaneous management of all loads (for example, general deactivation of all lamps in the house and/or closing of all rolling shutters).

It is also possible to carry out special functions - which can hardly be achieved with conventional electrical systems.

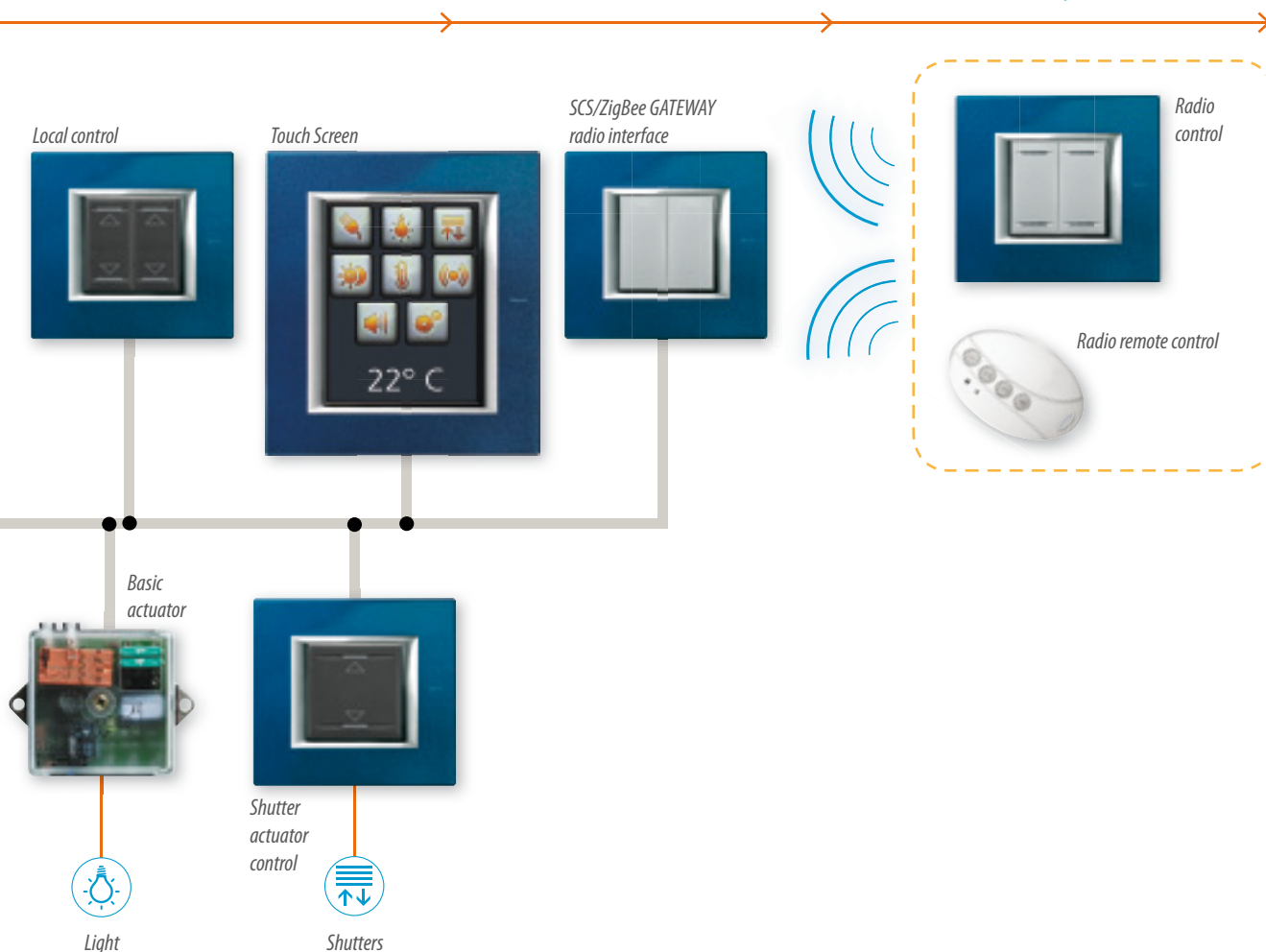
These functions are called scenarios, which consist of a set of simultaneous controls used for arranging the room according to the user's lifestyle.

An example of a scenario can be represented by the simultaneous activation of lights, shutters, etc., which can be set by the user after getting home by using one single

control device or by using the Touch Screen menu. If the Automation system is integrated with the 2 wire Sound system and Temperature control system, the scenario can also set up a room with background music and with the required temperature.

## Radio/wire interfaces

## Radio system



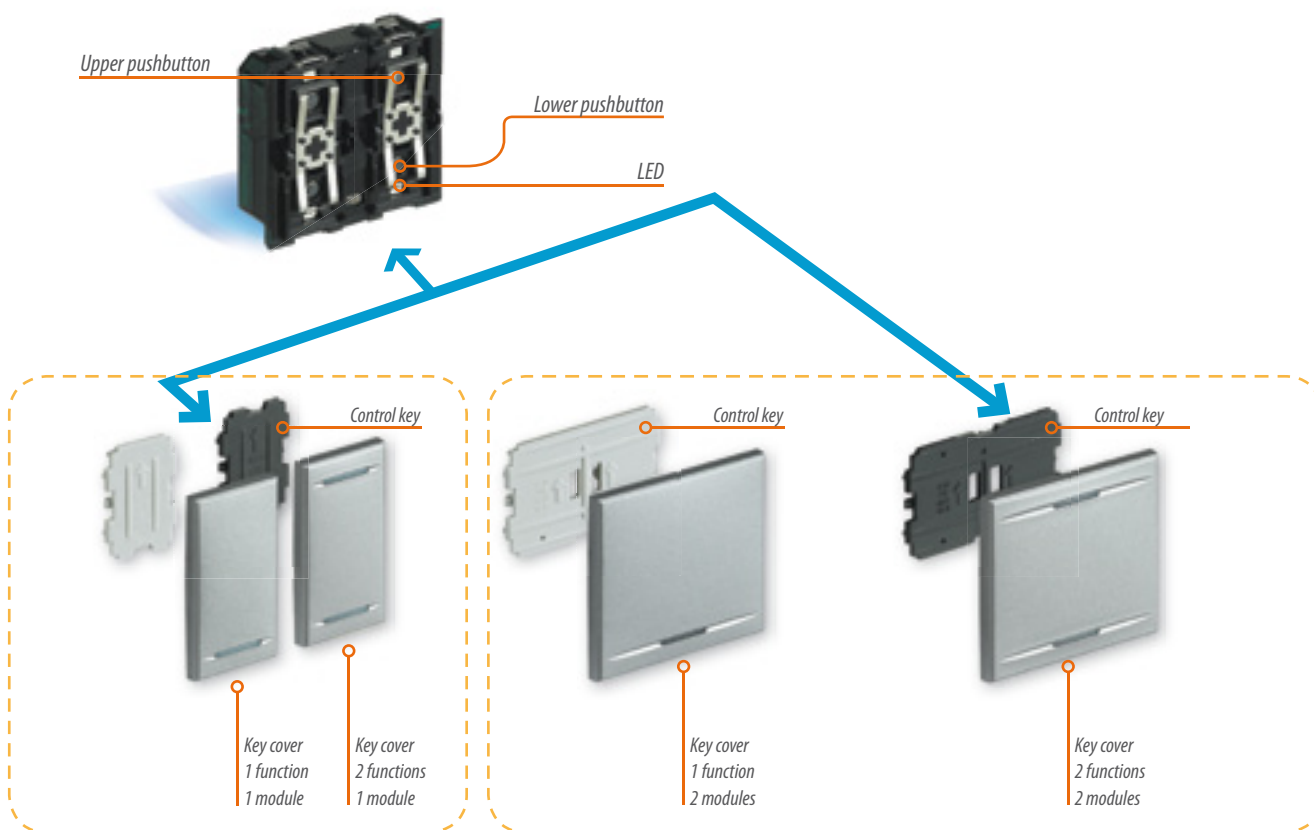
## Control devices

Control devices allow you to control the state of the actuators, thus executing different functions: ON, OFF, timing, etc., which depend on the functioning mode that has been assigned to them through an appropriate configuration. The electronic part of these devices

is separated from the mechanical operating part so that one can choose the type, number and size of the control pushbuttons. The device can be modular, thus meeting the different installation requirements and different functions required by the user.

Two types of keys and key covers can be used:

- 1 function key cover, one or two modules, to be used with the grey control key;
- 2 function key cover, one or two modules, to be used with the black control key;



*The control with the single key cover can become integrated with a traditional closing contact (pushbutton or switch).*

*The double key cover (tilting) can become integrated with a traditional exchanging contact.*  
 NOTE: control keys are supplied with the device as standard.

## LOWERED CONTROLS

These devices consist of two lowered flush mounted modules. This reduces depth, leaving more room inside the box for the housing of cables, or for basic modularity devices.

## LOWERED 2 MODULE CONTROL

The single and double load control performs the same functions of the previously released item. The only differences are:

- it has been lowered to reduce the size inside the box;
- it features two green/red bicolour LEDs (in the LIVINGLIGHT and MÀTIX version), or 4 blue/red bicolour LEDs (AXOLUTE version).

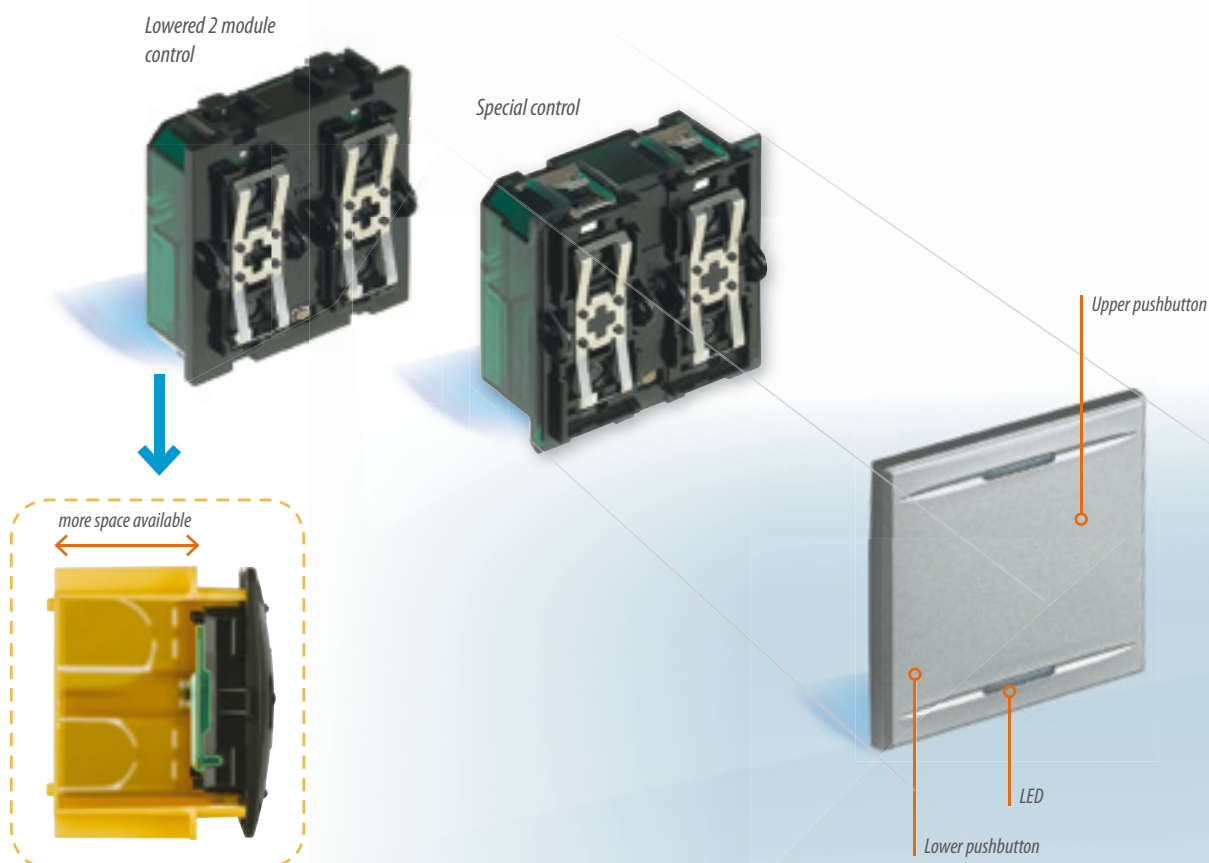
## SPECIAL CONTROL

In addition to the standard functions it also enables performing all the Special functions, normally performed by three different controls: the Special function control, the extended control, and the timer control.

The Special control features 4 pushbuttons and 2 green/red bicolour LEDs (in the LIVINGLIGHT and MÀTIX version) or 4 blue/red bicolour LEDs (AXOLUTE version).



## CONTROL STATUS INDICATORS

All the controls feature LEDs, which indicate their status (enabled or disabled), and make them easier to find in the dark. The intensity of the selected load status signalling LED may be adjusted or turned off using the pushbutton on the control itself.














## GENERAL FEATURES

# Control devices: controls/key covers - quick matching guide

KEY-COVERS WITHOUT SILK-SCREEN PRINTING		AXOLUTE				LIVINGLIGHT				
		1 MODULE		2 MODULES		1 MODULE		2 MODULES		
CONTROLS		1 Function 	2 Functions 	1 Function 	2 Functions 	1 Function 	2 Functions 	1 Function 	2 Functions 	
Special control 	H4651M2 L4651M2 AM5831M2	HD4915 HC4915 HS4915	HD4911 HC4911 HS4911	HD4915M2 HC4915/2 HS4915/2	HD4911M2 HC4911/2 HS4911/2	L4915N N4915LN NT4915N	L4911N N4911N NT4911N	L4915M2N N4915M2N NT4915M2LN	L4911M2N N4911M2N NT4911M2N	
Controls for 2 independent loads 	H4652/2 L4652/2 AM5832/2	HD4915 HC4915 HS4915	HD4911 HC4911 HS4911	HD4915M2 HC4915/2 HS4915/2	HD4911M2 HC4911/2 HS4911/2	L4915N N4915LN NT4915N	L4911N N4911N NT4911N	L4915M2N N4915M2N NT4915M2LN	L4911M2N N4911M2N NT4911M2N	
Controls for 3 independent loads 	H4652/3 L4652/3 AM5832/3	HD4915 HC4915 HS4915	HD4911 HC4911 HS4911	HD4915M2 HC4915/2 HS4915/2	HD4911M2 HC4911/2 HS4911/2	L4915N N4915LN NT4915N	L4911N N4911N NT4911N	L4915M2N N4915M2N NT4915M2LN	L4911M2N N4911M2N NT4911M2N	





HD = WHITE, HC = TECH, HS = ANTHRACITE, L = ANTHRACITE, N = WHITE, NT = TECH



















KEY-COVERS WITH SILK-SCREEN PRINTING*		AXOLUTE				LIVINGLIGHT				
		1 MODULE		2 MODULES		1 MODULE		2 MODULES		
Controls		1 Function 	2 Functions 	1 Function 	2 Functions 	1 Function 	2 Functions 	1 Function 	2 Functions 	
Special control 	H4651M2 L4651M2 AM5831M2	HD4915... HC4915... HS4915...	HD4911... HC4911... HS4911...	HD4915M2... HC4915/2... HS4915/2...	HD4911M2... HC4911/2... HS4911/2...	L4915... N4915... NT4915...	L4911... N4915... NT4915...	L4915M2... N4915M2... NT4915M2...	L4911M2... N4915M2... NT4915M2...	
Controls for 2 independent loads 	H4652/2 L4652/2 AM5832/2	HD4915... HC4915... HS4915...	HD4911... HC4911... HS4911...	HD4915M2... HC4915/2... HS4915/2...	HD4911M2... HC4911/2... HS4911/2...	L4915... N4915... NT4915...	L4911... N4915... NT4915...	L4915M2... N4915M2... NT4915M2...	L4911M2... N4915M2... NT4915M2...	
Controls for 3 independent loads 	H4652/3 L4652/3 AM5832/3	HD4915... HC4915... HS4915...	HD4911... HC4911... HS4911...	HD4915M2... HC4915/2... HS4915/2...	HD4911M2... HC4911/2... HS4911/2...	L4915... N4915... NT4915...	L4911... N4915... NT4915...	L4915M2... N4915M2... NT4915M2...	L4911M2... N4915M2... NT4915M2...	

HD = WHITE, HC = TECH, HS = ANTHRACITE, L = ANTHRACITE, N = WHITE, NT = TECH

\* Complete the Key cover code with the letters corresponding to the required screen printing (see table). For the complete range of LIVINGLIGHT key covers see the "Catalogue" section.

	MÀTIX			
	1 MODULE		2 MODULES	
	1 Function	2 Functions	1 Function	2 Functions
				
	AM5911	AM5911	AM5911/2	AM5911/2
	AM5911	AM5911	AM5911/2	AM5911/2
	AM5911	AM5911	AM5911/2	AM5911/2

	MÀTIX			
	1 MODULE		2 MODULES	
	1 Function	2 Functions	1 Function	2 Functions
				
	AM5915...	AM5911...	AM5915/2...	AM5911/2...
	AM5915...	AM5911...	AM5915/2...	AM5911/2...
	AM5915...	AM5911...	AM5915/2...	AM5911/2...

SELECTION OF KEY COVERS WITH SILK- SCREEN PRINTING			
AXOLUTE MATIX	LIVINGLIGHT	SILK-SCREEN PRINTING	SILK-SCREEN PRINTING DESCRIPTION
1 FUNCTION			
	DD		DO NOT DISTURB
	BN		STAIRCASE LIGHT
	MR		MAKE THE ROOM
AA		OFF	OFF
AB		ON	ON
AC		GEN	GEN
AD	ADN		DIMMER
BA	AN		LIGHT
BB	DN		BELL
BC			EXHAUST FAN
BD	FN		KEY
BE			TREBLE CLEF
BF			NURSE
BG <sup>1)</sup>			ROOM
BH			ALARMS
2 FUNCTIONS			
AF	AFN	OFF GEN ON	ON/OFF/GEN
AG	AGN	OFF ON	ON/OFF
AH	AHN		UP/DOWN
AI	AIN		ON/OFF DIMMER
BA <sup>1)</sup>			LIGHT
BC <sup>1)</sup>			EXHAUST FAN
BE <sup>1)</sup>			TREBLE CLEF
BF <sup>2)</sup>	BFN		SOUND SYSTEM FUNCTION
	ADN	+ -	+ UP - DOWN

1) Key cover not available for the MÀTIX series

2) Key cover not available for the 1 and 2 module AXOLUTE series, and for the 2 module MÀTIX, LIVINGLIGHT series



### Control devices

#### **TWO OR THREE MODULE AXOLUTE SOFT TOUCH CONTROLS**

This device is capable of sending actuation and adjustment commands for the automation, sound system and video door entry system functions, with the simple touch of the control.

#### **AXOLUTE NIGHTER, WHICE AND WHITE GLASS CONTROLS**

The Nighter and Whice control is a control where the traditional pushbuttons are replaced by capacitive sensors. Moving the finger close to a sensor is the same as pressing a pushbutton. The device can therefore be used to control single or group loads (e.g. Lights and Shutters), sound system, scenarios, and basic video door entry system functions. It's produced in the versions with 3 and 4 flush mounted modules, with 6 and 8 keys respectively.

*2 module Soft Touch control*



Each zone corresponding to a key is marked at the centre by a light blue LED.

When the user moves a finger close, its intensity increases sensibly, and remains so until the finger is moved away again.

This effect gives the user the feeling of activating the control. Using the appropriate configurator it is possible to select different intensity levels.

*Nighter 3 module control*



*Whice 4 module control*



## INFRARED CONTROLS

IR receiver and new IR remote control:

With the receiver, the manual control can be complemented or replaced by a remote control, using the infrared remote control unit, 3529.

To the remote control pushbuttons, it is possible to associate controls

intended for 1 relay actuators for single loads, 2 relays actuators for double loads (shutter motor etc.), for the management of scenarios, as well as manage both sound systems and video door entry systems.

IR receiver



IR remote control



## MOVEMENT AND LIGHTING SENSORS

Thanks to the new Green switch sensors and the Lighting Management system sensors, it is possible to manage, in a My Home system, the lighting depending on the presence of people, and the level of natural light, ensuring:

### ■ Energy efficiency

With the new sensors it is possible to eliminate energy waste through an intelligent management of the lights, ensuring the necessary lighting levels, at the right time and in the right place. The various operating modes that can be set with the configuration enable the user to obtain different levels of energy efficiency.

### ■ Comfort and wellbeing

The new sensors also allow increasing the level of comfort of the users, with the automatic switching on of the light when entering the room, and the preservation of the desired lighting level based on external conditions.



## Control devices

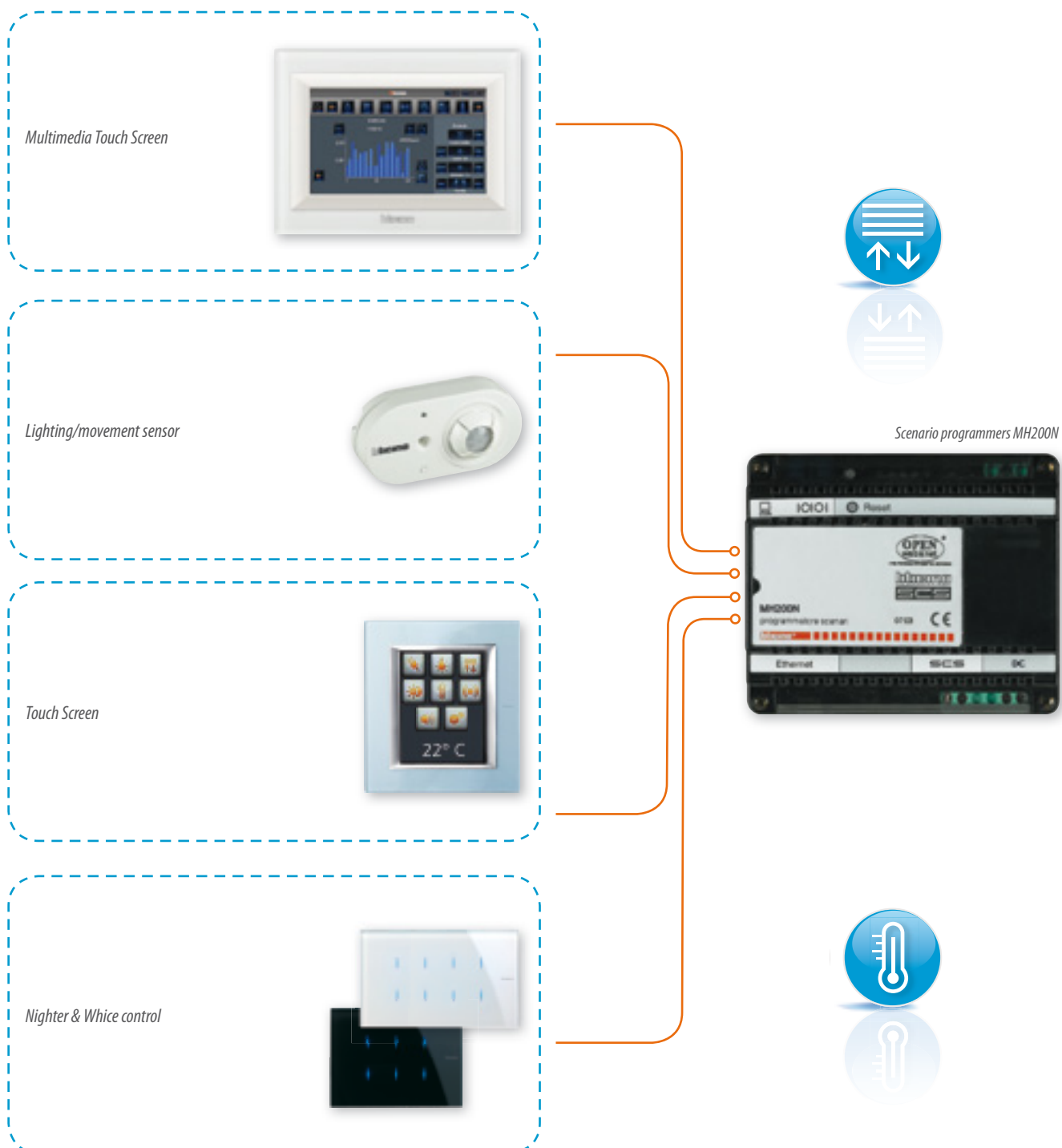
### SCENARIO MANAGEMENT SYSTEMS

These devices can be used to create particular and advanced comfort situations called scenarios, for example, by activating some lights to

a certain level, and positioning some shutters for watching the television, or reading a book, following the life style of the user.

Another example of an advanced

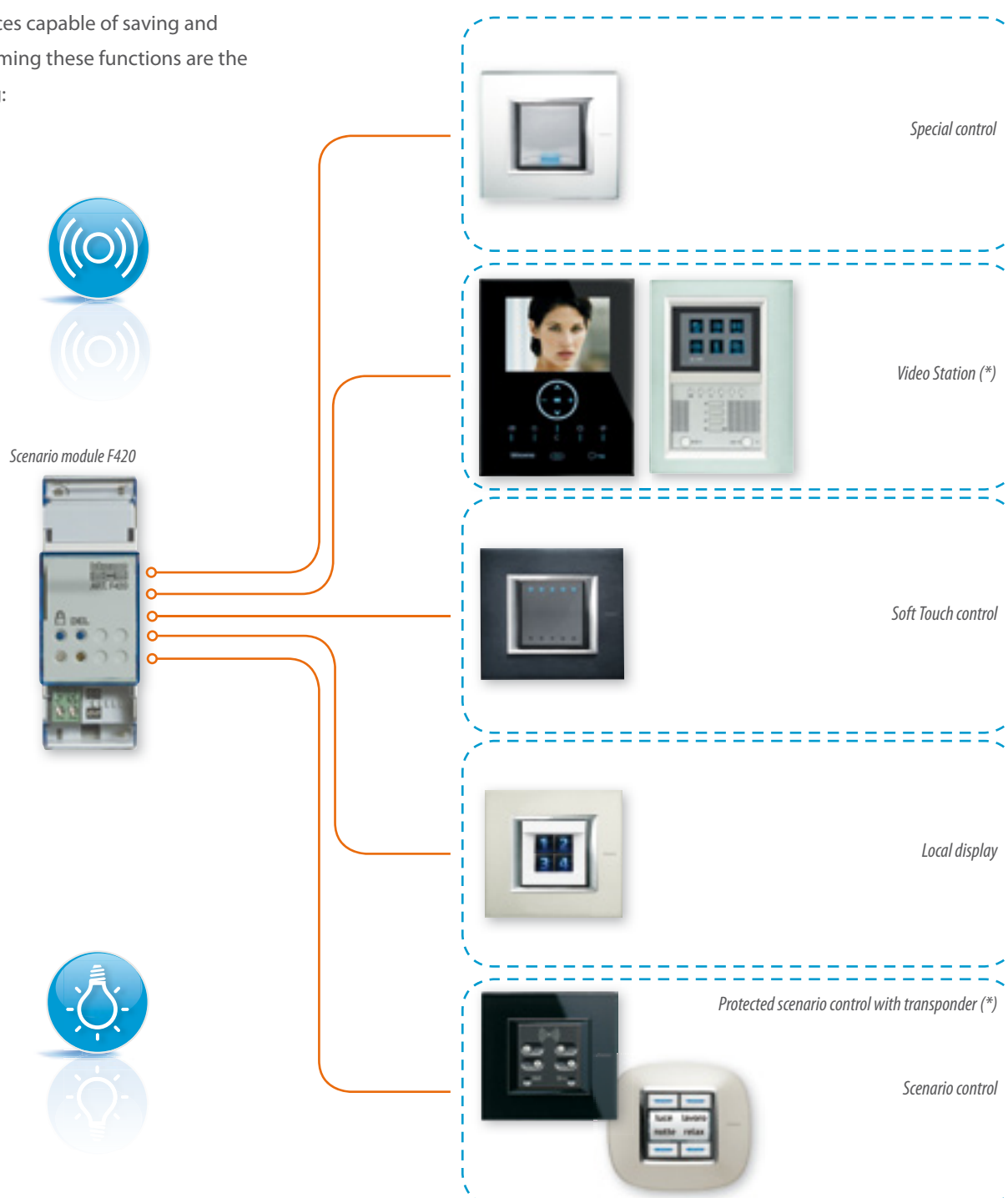
scenario that can be set using the various integrated MY HOME systems is the activation of a certain background music, the setting of the temperature and the light level of the house, when entertaining friends.



The described scenarios are managed from particular devices capable of saving in the memory all the Controls that define the scenario, and which the user can recall simultaneously by pressing one single pushbutton. The devices capable of saving and programming these functions are the following:

■ 2 DIN modules F420 scenario module for saving 16 scenarios for automation, sound system, temperature control, and video door entry applications.

■ MH200N scenario programmer for the creation and management of advanced scenarios, also linked to time events, system status, and more.



**NOTE (\*):** at the moment these devices cannot activate scenarios managed by the MH200N scenario programmer.

## Control devices

## CONTROL SELECTION BASED ON THE FUNCTION TO BE MANAGED

TYPE OF CONTROL	ON/OFF LIGHTING AND LOADS			LIGHTING WITH ADJUSTMENT (DIMMER)			
	AXOLUTE	LIVINGLIGHT	MÀTIX	AXOLUTE	LIVINGLIGHT	MÀTIX	
2/3 module single and double load control (*) 	H4652/2 H4652/3	L4652/2 L4652/3	AM5832/2 AM5832/3	H4652/2 H4652/3	L4652/2 L4652/3	AM5832/2 AM5832/3	
2 module special control (*) 	H4651M2	L4651M2	AM5831M2	H4651M2	L4651M2	AM5831M2	
Knob control 				HD4563 HC4563 HS4563	L4563 N4563 NT4563		
Infrared receiver + IR remote control 	HD4654 HC4654 HS4654	L4654N N4654N NT4654N	AM5834	HD4654 HC4654 HS4654	L4654N N4654N NT4654N	AM5834	
Scenario control 							
2/3 module Soft Touch control 	HD4653M2 HD4653M3 HC4653/2 HC4653/3 HS4653/2 HS4653/3			HD4653M2 HD4653M3 HC4653/2 HC4653/3 HS4653/2 HS4653/3			
3/4 module Nighter and Whice controls 	HD4657M3 HD4657M4 HC4657M3 HC4657M4 HS4657M3 HS4657M4			HD4657M3 HD4657M4 HC4657M3 HC4657M4 HS4657M3 HS4657M4			
Touch Screen - Local display 	H4890 HW4890	LN4890 LN4890A	AM5890	H4890 HW4890	LN4890 LN4890A	AM5890	
Green Switch control and PIR sensor 	HC4659 HC4658 HD4659 HD4658 HS4659 HS4658	L4659N L4658N N4659N N4658N NT4659N NT4658N	AM5659 AM5658	HC4659 HC4658 HD4659 HD4658 HS4659 HS4658	L4659N L4658N N4659N N4658N NT4659N NT4658N	AM5659 AM5658	
Key card switches 	H4648 H4649	LN4648 LN4649					

\* To be completed with key cover

	MANAGEMENT OF AUTOMATISMS (E.G. CURTAINS AND SHUTTERS)			SCENARIO MANAGEMENT USING F420 AND MH200N		
	AXOLUTE	LIVINGLIGHT	MÀTIX	AXOLUTE	LIVINGLIGHT	MÀTIX
	H4652/2 H4652/3	L4652/2 L4652/3	AM5832/2 AM5832/3			
	H4651M2	L4651M2	AM5831M2	H4651M2	L4651M2	AM5831M2
	HD4654 HC4654 HS4654	L4654N N4654N NT4654N	AM5834	HD4654 HC4654 HS4654	L4654N N4654N NT4654N	AM5834
				HD4680 HC4680 HS4680	L4680 N4680 NT4680	
				HD4653M2 HD4653M3 HC4653/2 HC4653/3 HS4653/2 HS4653/3		
	HD4657M3 HD4657M4 HC4657M3 HC4657M4 HS4657M3 HS4657M4			HD4657M3 HD4657M4 HC4657M3 HC4657M4 HS4657M3 HS4657M4		
	H4890 HW4890	LN4890 LN4890A	AM5890	H4890 HW4890 HC4891 HD4891 HS4891	LN4890 LN4890A L4891 N4891 NT4891	AM5890
				HC4659 HC4658 HD4659 HD4658 HS4659 HS4658	L4659N L4658N N4659N N4658N NT4659N NT4658N	AM5659 AM5658
				H4648 H4649	LN4648 LN4649	

## Actuator devices

These devices execute direct controls and control the connected load in the same way as an electromechanical relay.

For this reason, they must be connected to the BUS cable using the removable terminals as well as to the 230V a.c. supply line of the load.

There are different types of actuators: they can differ by shape, size, installation features and by their controlled power.

The range includes:

- Flush mounted two module actuators;
- Basic modularity actuators with reduced profile;
- DIN module actuators.

### FLUSH-MOUNTING ACTUATOR WITH 2 MODULES

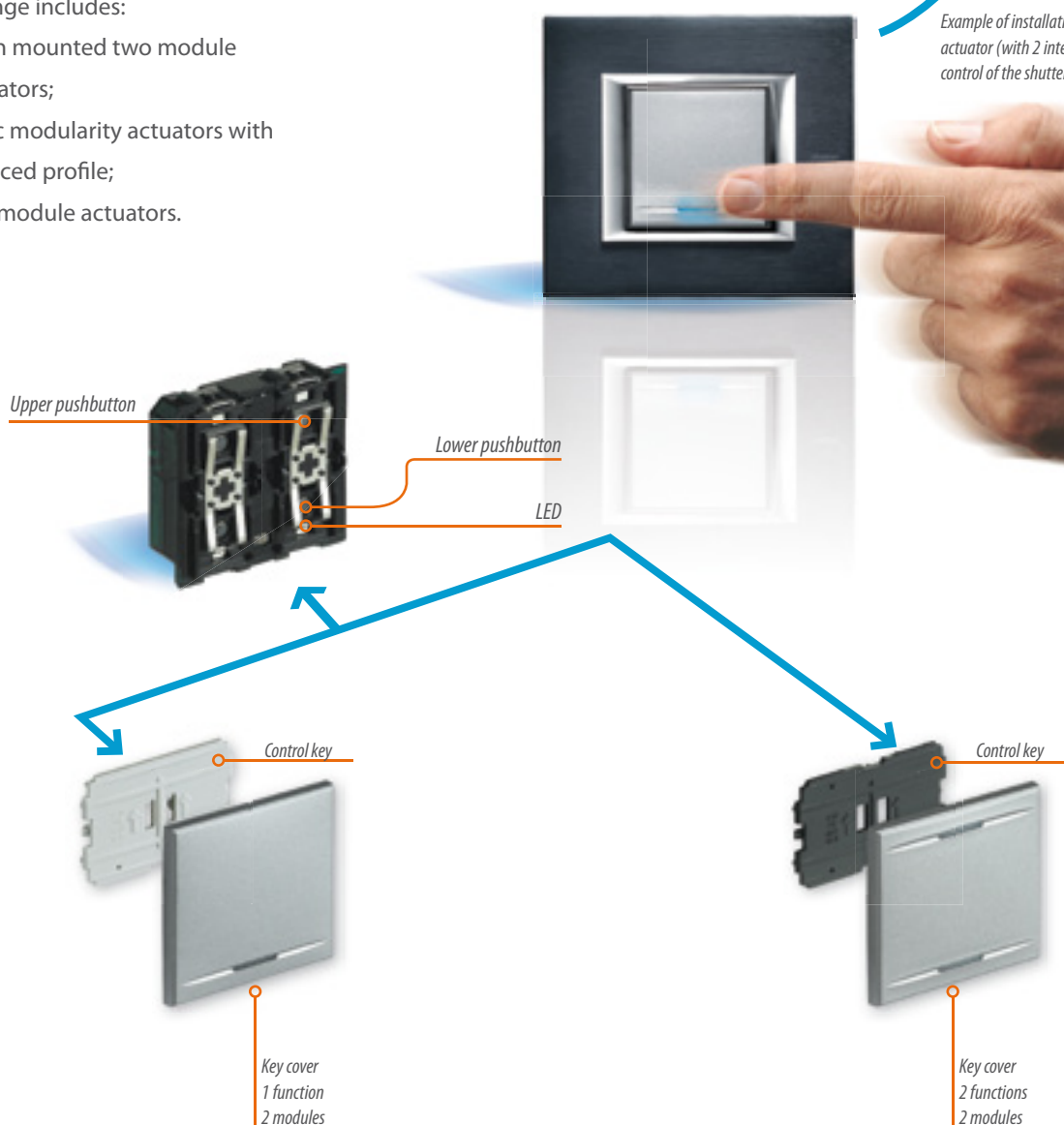
They are available with 1 and 2 interlocked relays: control for 1 single load (lamp or motor) or 1 double load (motor for shutters).

These actuators can be advantageously used as a control point, as they are provided with control pushbuttons at the front side operated by key covers.

Shutters up-down



Example of installation of a flush mounted actuator (with 2 interlocked relays) for the control of the shutters.



NOTE: the control keys are supplied with the device as standard.

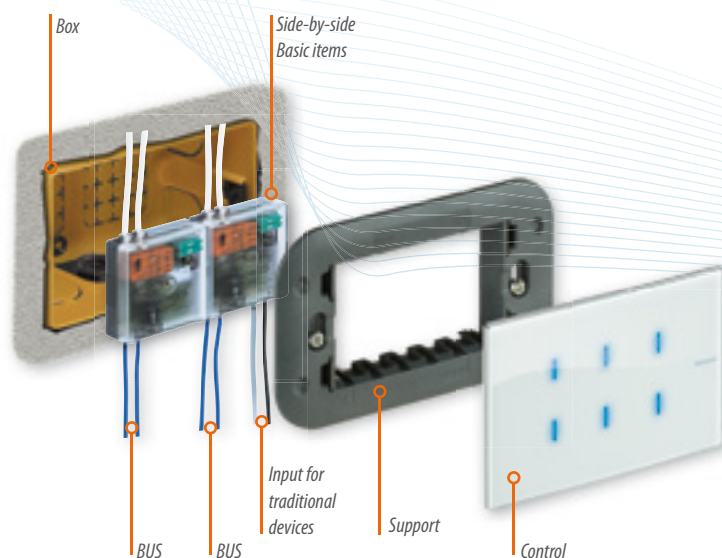


## BASIC MODULE ACTUATOR

Basic actuators are characterized by extremely compact dimensions: width = 40.5 mm, height = 40.5 mm, depth = 18 mm. These dimensions allow the actuators to be installed in junction boxes or inside the load to be controlled (for example in the bowl of a chandelier, in the structure of a lampstand, etc.).

It is also possible to place the control for two light points with their Basic actuators in a 503E box; the installation can otherwise be achieved with a 504E box or by finding new spaces for the positioning of the actuators.

Example of installation in flush mounted box



## NEW FLUSH MOUNTED ACTUATOR/CONTROL

This device is fitted with 2 independent relays for the management of:

- 2 loads or 2 groups of loads, independent;
- 1 single load (rolling shutter motor).

The actuator may also be configured for the management of the connected load, whilst at the same time operating as a "control device" for the management of one or more remote actuators, with operating modes typical of control device item H/L4652/2.















## GENERAL FEATURES

# Actuator devices: controls/key covers quick matching guide





KEY-COVERS WITHOUT SILK-SCREEN PRINTING		AXOLUTE				LIVINGLIGHT				
		2 MODULES		1 MODULE		2 MODULES		1 MODULE		
		1 Function	2 Functions	1 Function	2 Functions	1 Function	2 Functions	1 Function	2 Functions	
<b>ACTUATORS</b>										
Actuator with 1 relay	H4671/1 L4671/1 AM5851/1	HD4915M2 HC4915/2 HS4915/2	HD4911M2 HC4911/2 HS4911/2			L4915M2N N4915M2N NT4915M2LN	L4911M2N N4911M2N NT4911M2N			
										
Actuator/control with 2 interlocked relays	H4671M2 L4671M2 AM5851M2		HD4911M2 HC4911/2 HS4911/2	HD4915 HC4915 HS4915	HD4911 HC4911 HS4911		L4911M2N N4911M2N NT4911M2N	L4915N N4915LN NT4915N	L4911N N4911N NT4911N	
										
Dimmer actuator	H4678 L4678	HD4915M2 HC4915/2 HS4915/2	HD4911M2 HC4911/2 HS4911/2			L4915M2N N4915M2N NT4915M2LN	L4911M2N N4911M2N NT4911M2N			
										



HD = WHITE, HC = TECH, HS = ANTHRACITE, L = ANTHRACITE, N = WHITE, NT = TECH



















KEY-COVERS WITH SILK-SCREEN PRINTING*		AXOLUTE				LIVINGLIGHT				
		2 MODULES		1 MODULE		2 MODULES		1 MODULE		
		1 Function	2 Functions	1 Function	2 Functions	1 Function	2 Functions	1 Function	2 Functions	
<b>ACTUATORS</b>										
Actuator with 1 relay	H4671/1 L4671/1 AM5851/1	HD4915M2... HC4915/2... HS4915/2...	HD4911M2... HC4911/2... HS4911/2...			L4915M2 L4915M2 NT4915M2	L4911M2 N4915M2 NT4915M2			
										
Actuator/control with 2 interlocked relays	H4671/1 L4671/1 AM5851/1		HD4911M2... HC4911/2... HS4911/2...	HD4915... HC4915... HS4915...	HD4911... HC4911... HS4911...		L4911M2 N4915M2 NT4915M2	L4915... N4915... NT4915...	L4911... N4915... NT4915...	
										
Dimmer actuator	H4678 L4678	HD4915M2... HC4915/2... HS4915/2...	HD4911M2... HC4911/2... HS4911/2...			L4915M2 N4915M2 NT4915M2	L4911M2 N4915M2 NT4915M2			
										

HD = WHITE, HC = TECH, HS = ANTHRACITE, L = ANTHRACITE, N = WHITE, NT = TECH

\* Complete the Key cover code with the letters corresponding to the required screen printing (see table).

	MÀTIX			
	2 MODULES		1 MODULE	
	1 Function	2 Functions	1 Function	2 Functions
				
	AM5911/2	AM5911/2		
		AM5911/2	AM5911	AM5911

	MÀTIX			
	2 MODULES		1 MODULE	
	1 Function	2 Functions	1 Function	2 Functions
				
	AM5915/2...	AM5911/2...		
		AM5911/2...	AM5915...	AM5911...

SELECTION OF KEY COVERS WITH SILK-SCREEN PRINTING			
AXOLUTE MATIX	LIVINGLIGHT	SILK-SCREEN PRINTING	SILK-SCREEN PRINTING DESCRIPTION
1 FUNCTION			
	DD		DO NOT DISTURB
	BN		STAIRCASE LIGHT
	MR		MAKE THE ROOM
AA		OFF	OFF
AB		ON	ON
AC		GEN	GEN
AD	ADN		DIMMER
BA	AN		LIGHT
BB	DN		BELL
BC			EXHAUST FAN
BD	FN		KEY
BE			TREBLE CLEF
BF			NURSE
BG <sup>1)</sup>			ROOM
BH			ALARMS
2 FUNCTIONS			
AF	AFN	OFF GEN ON	ON/OFF/GEN
AG	AGN	OFF ON	ON/OFF
AH	AHN		UP – DOWN
AI	AIN		ON/OFF DIMMER
BA <sup>1)</sup>			LIGHT
BC <sup>1)</sup>			EXHAUST FAN
BE <sup>1)</sup>			TREBLE CLEF
BF <sup>2)</sup>	BFN		SOUND SYSTEM FUNCTION
	ADN	+ -	+ UP - DOWN

1) Key cover not available for the MÀTIX series

2) Key cover not available for the 1 and 2 module AXOLUTE series, and for the 2 module MÀTIX, LIVINGLIGHT series

## Actuator devices

### DIN MODUEL ACTUATORS

These devices are suitable for centralised installations in boards and switchboards (2 DIN modules). Available in versions with 1, 2 and 4 relays for controlling single loads or double loads (motor for shutters); these devices are also provided with load control keys for carrying out an operational test.

These actuators are characterised by having the advantage of removing the rear DIN adapter and the front

cover so as to reduce the overall dimensions, thus allowing them to be installed in raceways, junction boxes, false ceilings, boxes for rolling shutters, etc.

With centralised installations, for example, DIN switchboards E215/..., MULTIBOX or with the innovative installation solution MY HOME FLATWALL\*, the DIN adapter and the front cover enable you to align the profile of the adapter to that of the other DIN modular devices.

Switchboard installation example



DIN actuator  
for installation in switchboards



Load  
connection  
terminals

Load control  
pushbutton

Configurator  
housing

Example of installation  
inside a junction box



Removable adapter  
for installation on DIN rail  
in switchboards

Removable  
front cover

## ACTUATORS AND DIMMERS WITH POWER LINE SUPPLY

New actuators and dimmers, part of the Lighting Management offer range, which, thanks to the power supply from the power line, provide control of the load connected even when no power is received from the BUS. In this case, control is ensured using the keys found on the device itself. In this case, control is ensured using the keys found on the device itself; they also absorb an extremely limited amount of current from the power supply of the BUS, and therefore only have a marginal impact on the maximum number of devices that may be installed on the BUS itself.

The catalogue offers actuators in the 1, 2, and 4 relay versions with independent outputs for lighting devices only;

The power supply enables zero crossing and allows them to be particularly suitable for the management of the new energy saving lamps, such as compact fluorescent lamps and LED lamps. There are also dimmers with 0/10 V output, and two new "multi load" dimmers with 1 or 2 outputs, which can control any type of load (with the exception of compact fluorescent and LED lamps), and which enable the user to install the dimmer on the system, postponing the selection of the lamp to a later date.

4 relay actuator in  
DIN module BMSW1003

Multi load dimmer actuator in  
DIN module with one output F416U1

### NEW ACTUATORS

Some devices of the Energy Management offer may also be used in the automation system.

#### DIN actuators:

Two actuator devices capable of performing both energy management and automation functions; one in the basic version and one fitted with an integrated current sensor for the measurement of the consumption of the controlled load (instantaneous consumption and 2 energy totalizers that can be reset independently).

Configured in automation mode, they enable performing all the operations available on the Control devices, with

the exception of the management of the shutters. The connection with the power line enables zero crossing, which makes the devices compatible with the new energy saving lamps (compact fluorescent and LED).

#### Flush mounted actuator:



Actuator conceived for installation in LIVINGLIGHT and AXOLUTE flush mounted supports, intended for the automation and/or energy management functions.

DIN actuator

Flush mounted  
actuator

## Actuator devices

### ACTUATOR SELECTION BASED ON THE FUNCTION TO BE MANAGED

TYPE OF ACTUATOR	ON/OFF LIGHTING AND LOADS			
	AXOLUTE	LIVINGLIGHT	MÀTIX	
Flush mounted 2 module (*) 1 relay actuator 	H4671/1	L4671/1	AM5851/1	
Flush mounted, 2 relays, 2 MODULES (*), actuator/control 	H4671M2	L4671M2	AM5851M2	
Flush mounted 2 MODULE (*) dimmer actuator 				
Basic actuator 	3475			
Basic Actuator/Control 	3476			
1, 2, 4 relay DIN actuators 	F411/1N (1 relay) F411/2 (2 independent relays) F411/4 (4 independent relays with one common clamp) F411/1NC F411/2NC BMSW1001 BMSW1002 BMSW1003			
DIN Dimmer actuators 				

\* To be completed with key cover

	LIGHTING WITH ADJUSTMENT (DIMMER)			MANAGEMENT OF AUTOMATISMS (E.G. CURTAINS AND SHUTTERS)		
	AXOLUTE	LIVINGLIGHT	MÀTIX	AXOLUTE	LIVINGLIGHT	MÀTIX
				H4671M2	LN4671M2	AM5851M2
	H4678	L4678				
				F411/1N (1 relay - e.g.to control a solenoid valve) -) F411/2 (2 relays - ex. for 230 Vac motors -) F411/4 (4 independent relays with one common clamp)		
	F413N (for electronic ballasts and LED lamps) F414 (for 60 - 1000 VA resistive loads and ferromagnetic transformers) F415 (for 60 - 400 VA Electronic transformers) F416U1 F417U2 BMD1001					

## GENERAL FEATURES

# Actuator devices: selection of the actuators depending on the type of load

The table allows identification of the actuator device depending on what it is to be used for, the electrical features of the load to be controlled and the installation features.

**Warning:** Unless otherwise specified in the instruction leaflet, a 10 A thermal magnetic protection must be fitted on the power line to the actuators.





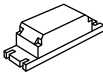

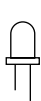
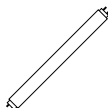

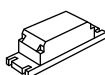

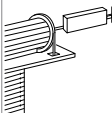

TABLE OF THE LOADS									
Actuators	Modules	Power supply of the device	Controllable loads						
									
			Incandescent and halogen lamps	LED lamps	Linear fluorescent lamps <sup>1)</sup>	Compact fluorescent lamps	Electronic transformers <sup>3)</sup>	Ferromagnetic transformers <sup>2)3)</sup>	Reducer motor for shutters <sup>4)</sup>
3475 3476	Basic	BUS SCS	2 A 460 W @ 230 Vac 220 W @ 110 Vac	40 W @ 230 Vac 20 W @ 110 Vac 1 lamp maximum	- -	40 W @ 230 Vac 20 W @ 110 Vac 1 lamp maximum	- -	2 A cosφ 0.5 460 VA @ 230 Vac 220 VA @ 110 Vac	- -
F411/1N	2 DIN	BUS SCS	10 A 2300 W @ 230 Vac 1100 W @ 110 Vac	500 W @ 230 Vac 250 W @ 110 Vac 10 lamps maximum	4 A 920 W @ 230 Vac 440 W @ 110 Vac	500 W @ 230 Vac 250 W @ 110 Vac 10 lamps maximum	4 A 920 W @ 230 Vac 440 W @ 110 Vac	4 A cosφ 0.5 920 VA @ 230 Vac 440 VA @ 110 Vac	-
F411/2	2 DIN	BUS SCS	6 A 1380 W @ 230 Vac 660 W @ 110 Vac	250 W @ 230 Vac 120 W @ 110 Vac 4 lamps maximum	1 A 230 W @ 230 Vac 110 W @ 230 Vac	250 W @ 230 Vac 120 W @ 110 Vac 4 lamps maximum	1 A 230 W @ 230 Vac 110 W @ 230 Vac	2 A cosφ 0.5 460 VA @ 230 Vac 220 VA @ 110 Vac	2 A 460 W @ 230 Vac 220 W @ 110 Vac
F411/4	2 DIN	BUS SCS	2 A 460 W @ 230 Vac 220 W @ 110 Vac	70 W @ 230 Vac 35 W @ 110 Vac 2 lamps maximum	0.3 A 70 W @ 230 Vac 35 W @ 110 Vac	70 W @ 230 Vac 35 W @ 110 Vac 2 lamps maximum	0.3 A 70 W @ 230 Vac 35 W @ 110 Vac	2 A cosφ 0.5 460 VA @ 230 Vac 220 VA @ 110 Vac	2 A 460 W @ 230 Vac 220 W @ 110 Vac
F413N	2 DIN	BUS SCS	- -	- -	2 A 460 W @ 230 Vac <sup>5)</sup> 220 W @ 110 Vac <sup>5)</sup> MAX. 10 ballast type T5, T8, compact or driver for LED	- -	- -	- -	- -
F414	4 DIN	BUS SCS	0.25 – 4.3A 60 – 1000 W @ 230 Vac - 50 Hz 0.25 – 3.5A 60 – 800 W @ 230 Vac - 60 Hz	- -	- -	- -	- -	0.25 – 4.3A 60 – 1000 VA @ 230 Vac - 50 Hz 0.25 – 3.5A 60 – 800 VA @ 230 Vac - 60 Hz	- -
F415	4 DIN	BUS SCS	- -	- -	- -	- -	0.25 – 1.7A 60 – 400 VA @ 230 Vac - 50 Hz	- -	- -
H/L4671/1 AM5851/1	2 flush mounting	BUS SCS	6 A 1380 W @ 230 Vac 660 W @ 110 Vac	150 W @ 230 Vac 70 W @ 110 Vac 3 lamps maximum	0.65 A 150 W @ 230 Vac 70 W @ 110 Vac	150 W @ 230 Vac 70 W @ 110 Vac 3 lamps maximum	0.65 A 150 W @ 230 Vac 70 W @ 110 Vac	2 A cosφ 0.5 460 VA @ 230 Vac 220 VA @ 110 Vac	- -
H/LN4671M2 AM5851M2	2 flush mounting	BUS SCS	2 A 460 W @ 230 Vac 220 W @ 110 Vac	70 W @ 230 Vac 35 W @ 110 Vac 2 lamps maximum	0.3 A 70 W @ 230 Vac 35 W @ 110 Vac	70 W @ 230 Vac 35 W @ 110 Vac 2 lamps maximum	0.3 A 70 W @ 230 Vac 35 W @ 110 Vac	2 A cosφ 0.5 460 VA @ 230 Vac 220 VA @ 110 Vac	2 A 460 W @ 230 Vac 220 W @ 110 Vac
F411/1NC	2 DIN	BUS SCS	10 A 2300 W @ 230 Vac 1100 W @ 110 Vac	500 W @ 230 Vac 250 W @ 110 Vac 10 lamps maximum	4 A 920 W @ 230 Vac 440 W @ 110 Vac	500 W @ 230 Vac 250 W @ 110 Vac 10 lamps maximum	4 A 920 W @ 230 Vac 440 W @ 110 Vac	4 A cosφ 0.5 920 VA @ 230 Vac 440 VA @ 110 Vac	- -
F411/2NC	2 DIN	BUS SCS	6 A 1380 W @ 230 Vac 660 W @ 110 Vac	- -	0.65 A 150 W @ 230 Vac 70 W @ 110 Vac	- -	0.65 A 150 W @ 230 Vac 70 W @ 110 Vac	1 A cosφ 0.5 230 VA @ 230 Vac 110 VA @ 110 Vac	- -
H/L4678	2 flush mounting	BUS SCS	0.25 – 1.3 A 60 – 300 W @ 230 Vac - 50/60 Hz	- -	- -	- -	- -	0.25 – 1.3 A 60 – 300 VA @ 230 Vac - 50/60 Hz	- -

TABLE OF THE LOADS

Actuators	Modules	Power supply of the device	Controllable loads						
									
			Incandescent and halogen lamps	LED lamps	Linear fluorescent lamps <sup>1)</sup>	Compact fluorescent lamps	Electronic transformers <sup>3)</sup>	Ferromagnetic transformers <sup>2) 3)</sup>	Reducer motor for shutters <sup>4)</sup>
F522	1 DIN	BUS SCS	10 A 2300 W @ 230 Vac 1100 W @ 110 Vac	500 W @ 230 Vac 250 W @ 110 Vac 10 lamps maximum	4 A 920 W @ 230 Vac 440 W @ 110 Vac	500 W @ 230 Vac 250 W @ 110 Vac 10 lamps maximum	4 A 920 W @ 230 Vac 440 W @ 110 Vac	4 A cosφ 0.5 920 VA @ 230 Vac 440 VA @ 110 Vac	- -
F523	1 DIN	BUS SCS	10 A 2300 W @ 230 Vac 1100 W @ 110 Vac	500 W @ 230 Vac 250 W @ 110 Vac 10 lamps maximum	4 A 920 W @ 230 Vac 440 W @ 110 Vac	500 W @ 230 Vac 250 W @ 110 Vac 10 lamps maximum	4 A 920 W @ 230 Vac 440 W @ 110 Vac	4 A cosφ 0.5 920 VA @ 230 Vac 440 VA @ 110 Vac	- -
HD/HC/ HS/L/N/ NT4672N	2 flush mounting	BUS SCS	10 A 2300 W @ 230 Vac 1100 W @ 110 Vac	500 W @ 230 Vac 250 W @ 110 Vac 10 lamps maximum	4 A 920 W @ 230 Vac 440 W @ 110 Vac	500 W @ 230 Vac 250 W @ 110 Vac 10 lamps maximum	4 A 920 W @ 230 Vac 440 W @ 110 Vac	4 A cosφ 0.5 920 VA @ 230 Vac 440 VA @ 110 Vac	- -
F416U1	6 DIN	100-240 Vac @ 50/60 Hz	4.3 A 40 – 1000 W @ 230 Vac 40 – 500 W @ 110 Vac	- -	-	-	4.3 A 40 – 1000 W @ 230 Vac 40 – 500 W @ 110 Vac	4.3 A 40 – 1000 VA @ 230 Vac 40 – 500 VA @ 110 Vac	- -
F417U2	6 DIN	100-240 Vac @ 50/60 Hz	1.7 A 40 – 400 W @ 230 Vac 40 – 200 W @ 110 Vac	-	-	-	1.7 A 40 – 400 W @ 230 Vac 40 – 200 W @ 110 Vac	1.7 A 40 – 400 W @ 230 Vac 20 – 200 W @ 110 Vac	- -
BMDI1001	6 DIN	100-240 Vac @ 50/60 Hz	4.3 A 1000 VA @ 230 Vac 500 VA @ 110 Vac	- -	4.3 A 1000 VA @ 230 Vac 500 VA @ 110 Vac	4.3 A 1000 VA @ 230 Vac 500 VA @ 110 Vac	- -	- -	- -
BMSW1001	4 DIN	100-240 Vac @ 50/60 Hz	16 A 3680 W @ 230 Vac 1760 W @ 110 Vac	2.1 A 500 VA @ 230 Vac 250 VA @ 110 Vac	4.3 A 10x(2x36 W) @ 230 Vac 5x(2x36 W) @ 110 Vac	5 A 1150 VA @ 230 Vac 550 VA @ 110 Vac	16 A 3680 VA @ 230 Vac 1760 VA @ 110 Vac	16 A 3680 VA @ 230 Vac 1760 VA @ 110 Vac	- -
BMSW1002	4 DIN	100-240 Vac @ 50/60 Hz	16 A 3680 W @ 230 Vac 1760 W @ 110 Vac	2.1 A 500 VA @ 230 Vac 250 VA @ 110 Vac	4.3 A 10x(2x36 W) @ 230 Vac 5x(2x36 W) @ 110 Vac	5 A 1150 VA @ 230 Vac 550 VA @ 110 Vac	16 A 3680 VA @ 230 Vac 1760 VA @ 110 Vac	16 A 3680 VA @ 230 Vac 1760 VA @ 110 Vac	- -
BMSW1003	6 DIN	100-240 Vac @ 50/60 Hz	16 A 3680 W @ 230 Vac 1760 W @ 110 Vac	2.1 A 500 VA @ 230 Vac 250 VA @ 110 Vac	4.3 A 10x(2x36 W) @ 230 Vac 5x(2x36 W) @ 110 Vac	5 A 1150 VA @ 230 Vac 550 VA @ 110 Vac	16 A 3680 VA @ 230 Vac 1760 VA @ 110 Vac	16 A 3680 VA @ 230 Vac 1760 VA @ 110 Vac	- -

## Notes:

- 1) fluorescent lamps with corrected power factor, energy saving lamps, discharge lamps.
- 2) it is necessary to consider the efficiency of the transformer in order to calculate the effective power of the actuator load. For instance, if you connect a dimmer to a 100VA ferromagnetic transformer with efficiency 0.8, the effective power of the load will be 125VA.
- 3) the transformer must be loaded at its rated power and, in any case, never below 90% of that power. It is recommended to use one transformer rather than several transformers in parallel. For instance, it is preferred to use one 250VA transformer with 5 50W spotlights connected rather than 5 50VA transformers in parallel, each with a 50W spotlight.
- 4) the  symbol shown of the actuators refers to a reducer motor for shutters.
- 5) only compatible with the selected lamps with Ballast 1/10 V.



## Interfaces

### CONTACT INTERFACE IN DIN MODULE

With this device it is possible to connect traditional devices to the BUS, such as switches and pushbuttons, thus extending the use of the BUS to traditional pre-existing systems. It is also possible to interface thermostats, control devices, humidity detectors, wind detectors etc.

*DIN module contact interface*

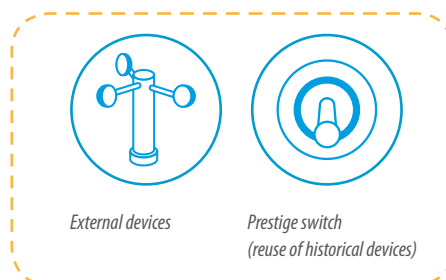


### CONTACT INTERFACE IN BASIC MODULE

The essential feature of this device, due to the reduced overall dimensions, is the rear-device installation mode. As a result, it is possible to install the interface in a 503E box right behind the traditional devices (e.g. switch, pushbutton) or behind electronic shallow devices (e.g. controls, detectors).

It is also possible to interface thermostats, humidity detectors, wind detectors etc. This installation solution simplifies the conversion of traditional electric systems into home automation systems, as it makes it possible to keep the existing flush mounted boxes, without the need for masonry work.

*Basic module contact interface*



## Wire Automation extension with ZigBee radio devices

The wired automation system described in the previous pages can be expanded at any time by extending the wiring or adding new control devices.

However, this is not always easy to do; in some buildings, either historic and/or valuable buildings, the extension of the system entails unavoidable and costly interventions on the building work.

These problems can be easily resolved using the radio controls included in the ZigBee radio system range; being battery powered and independent from the system wiring, these devices give the possibility of

controlling the users from positions that cannot be reached by the BUS wiring. The “wireless” connection among these devices and the wired ones is ensured by a special radio interface connected to the BUS. The integration between the two technologies, radio and wired, enables therefore the installer to select each time the best solution that meets the requirements of the customer, both in terms of functionality, and in relation to the homes.

This solution can also be extended, with some advantages, to new buildings; for example in offices with

moving walls and with false ceiling mounted BUS actuators, the radio controls are the ideal solution for installing flexible light points, easy to reposition in case of modification in the arrangement of the offices, or the furniture.

For more information and for the range of control devices see the specific Radio System chapter of this guide.

### POSSIBLE FUNCTIONS

- Shutter and rolling shutter automation
- Lighting
- Scenario management



## General concepts

This chapter describes the general concepts for the “physical” and “virtual” configuration of the MY HOME automation devices. For each item, the “Technical Sheets” chapter describes the functions that can be realised depending on the configurators used.

### ACTUATORS: ADDRESS AND TYPE OF CONTROL

To understand the addressing logical it is useful to define some terms which will occur frequently in this guide.

*Room (A)*

Set of devices belonging to a logical area (in a home, for example, the living room, the bedroom, etc.).

*Light Point (PL)*

Numeric identification of the single actuators inside the Room.

*Group (G)*

Set of devices also belonging to different rooms but which must be controlled at the same time (e.g. the rolling shutters of the North side of the home, the lighting of the day area, etc.).

### ACTUATOR ADDRESS - PHYSICAL CONFIGURATION

The address of each actuator is defined uniquely by assigning the numeric configurators 1 to 9 in positions A (Room) and PL (Light Point inside the Room).

A maximum of 9 addresses can be defined for each room; a maximum of 9 rooms can be defined in a system.

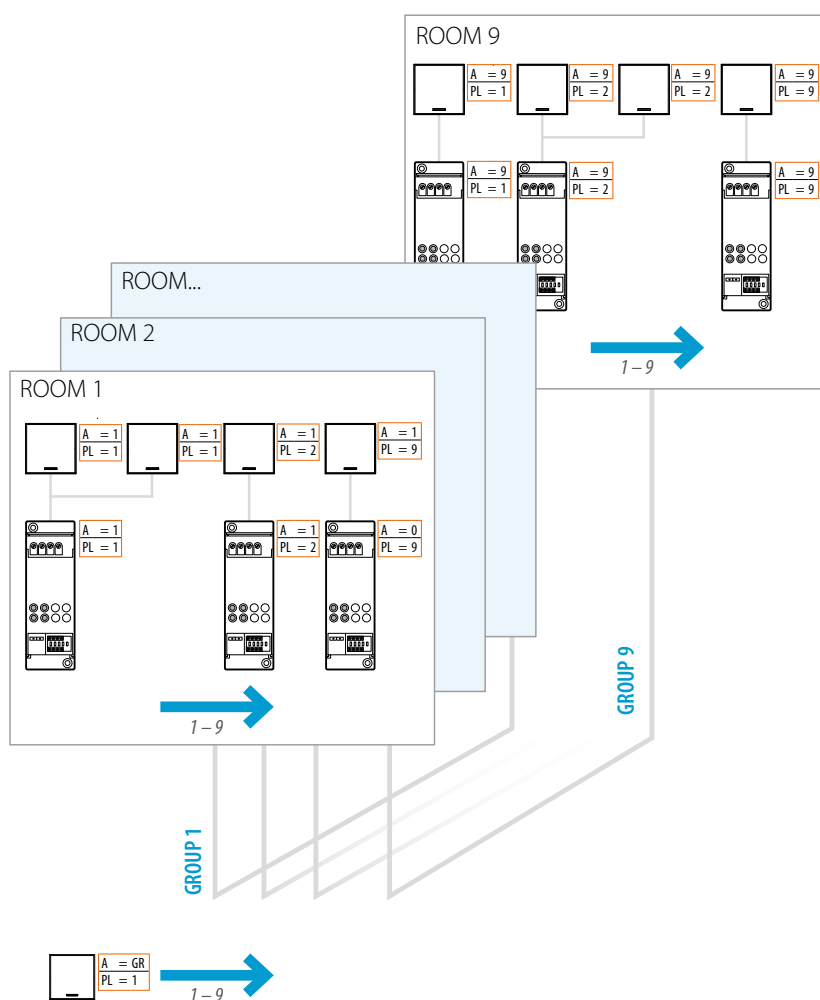
The group of belonging is defined by inserting a third numeric configurator in the housing identified with G (Group).

Some actuators have several G

positions (G1, G2 and G3) as they can belong to several different groups at the same time.

*Example: The actuator configured with A = 1, PL = 3 and G = 4 is device 3 of room 1 belonging to group 4.*

## Physical Configuration



## ACTUATOR ADDRESS - VIRTUAL CONFIGURATION

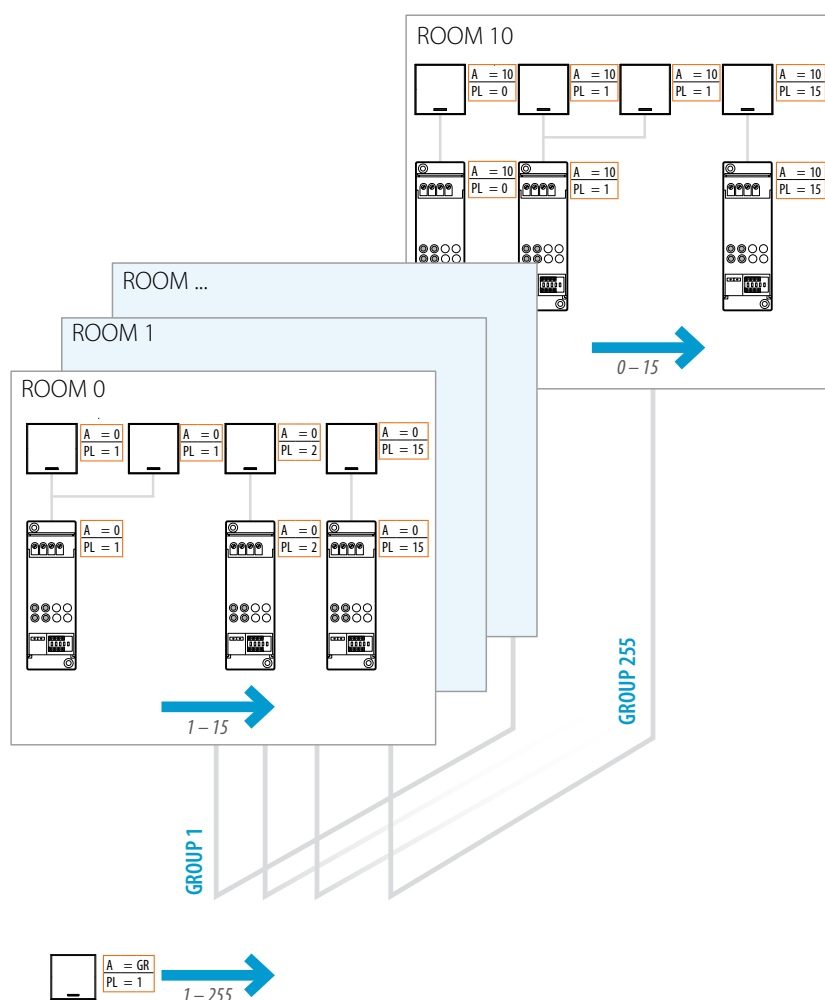
A maximum of 16 addresses can be defined for each room (PL=0-15); a maximum of 16 rooms can be defined in a system. (A=0 -10).

## LOGICAL EXTENSION

For special applications such as extended systems in houses or service/industrial rooms, where the use of many devices may exceed the configuration limits mentioned above, interface F422 can be used, configured in the "logical expansion" mode.

This mode can make an extended system made up of several individual systems (see "General rules for installation" section).

## Virtual configuration



## General concepts

### CONTROLS: ADDRESS AND TYPE OF CONTROL

The control devices also have positions A and PL to define the addresses of the devices which receive the control (actuators).

For these positions there are numeric

configurators with graphics which enable the device to send the control with the various ways listed in the table below.

*Mode for addressing the devices using the Physical Configuration*

TYPE OF CONTROL	CONTROL DEVICE	
	configurator socket	value of the configurator
Point-point	A	1-9
	PL	1-9
Room	A	AMB
	PL	1-9
Group	A	GR
	PL	1-9
General	A	GEN
	PL	-

*Mode for addressing the devices using the Virtual Configuration*

TYPE OF CONTROL	CONTROL DEVICE	
	Configurable address	Configuration
Point-point	A	0-10
	PL	0-15
Room	A	AMB
	PL	0-10
Group	A	GR
	PL	1-255
General	A	GEN
	PL	-

## EXAMPLES OF CONFIGURATION

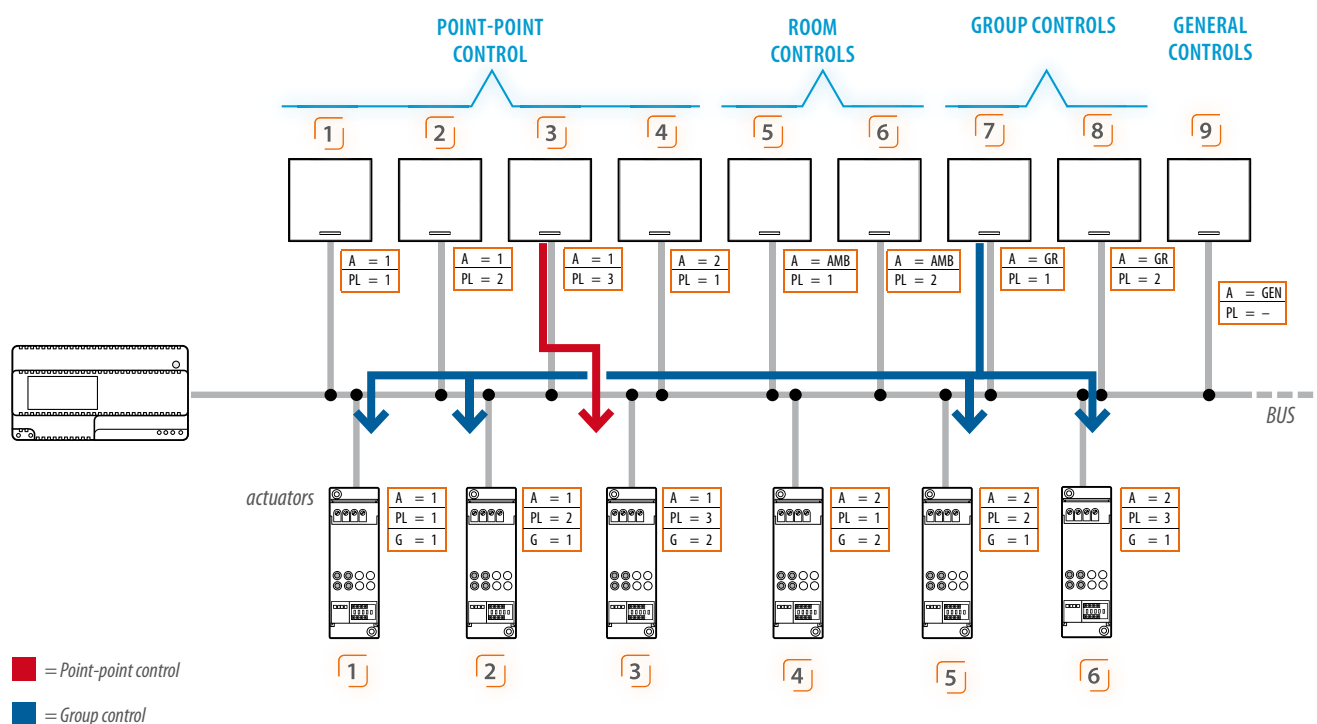
### Point-point control

If the No. 3 control is configured with A = 2 and PL = 3, this device sends the control to the actuator identified with A = 2 and PL = 3.

### Group control

If the No. 7 control is configured with A = GR and PL = 1, this device sends the control to the actuator

identified with G = 1 (thus belonging to group 1).



## Addressing levels

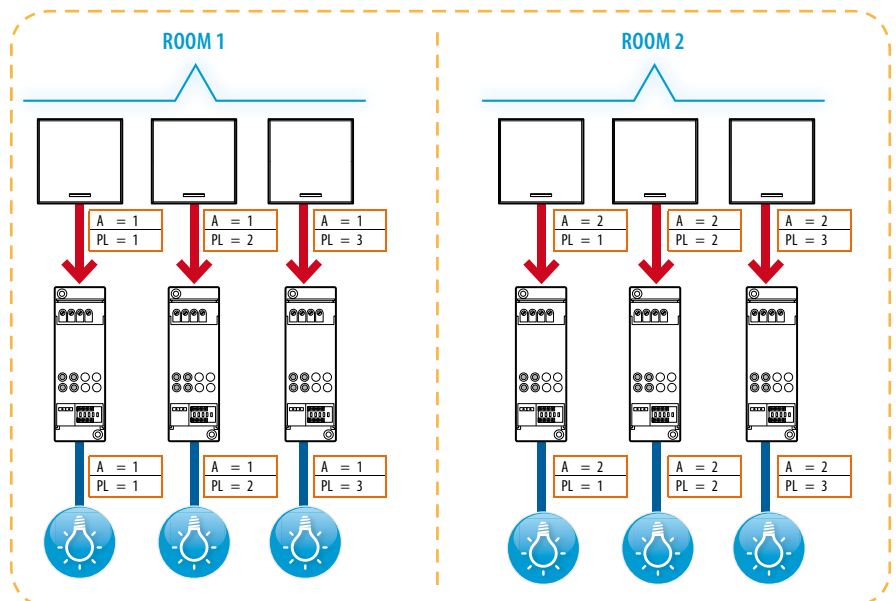
For a better understanding of the concepts described in the previous page, the four addressing modes are described below.

The control devices (senders) can activate the actuators (receivers) with the following modes.

### POINT-POINT CONTROL

Direct control to one actuator identified by a “room number” and a “light point number”.

Example: control for a single load (lamp, fan, rolling shutter, etc.)



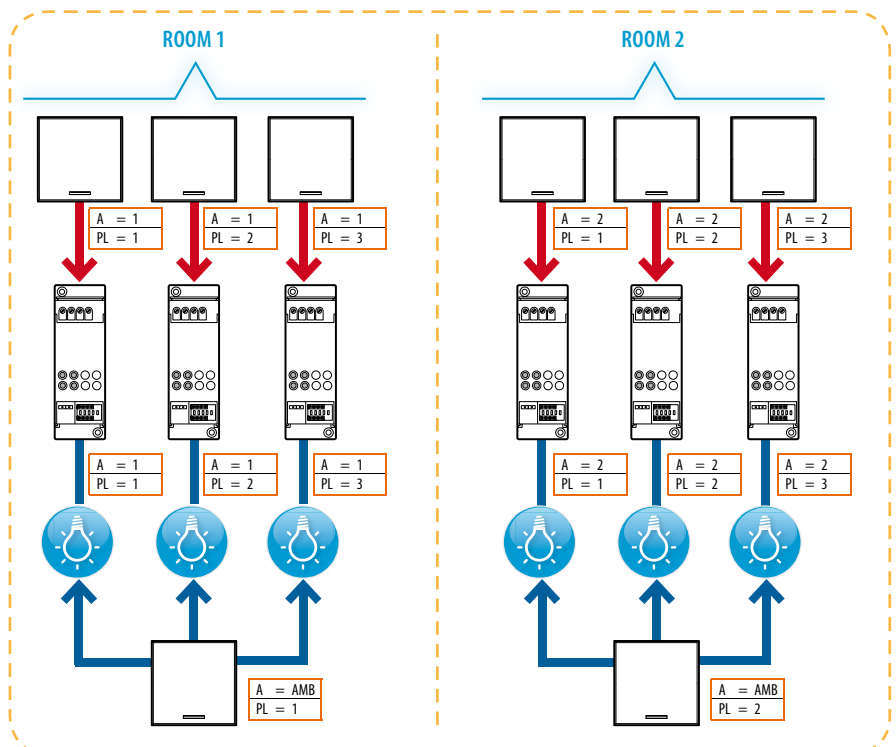
Control device:  $A = n^*$   $PL = n^*$

Actuator:  $A = n^*$   $PL = n^*$

### ROOM CONTROL

Direct control to all the actuators identified by the same room number.

Example: control for all the lamps of a room



Control device:  $A = \text{AMB}$   $PL = n^*$

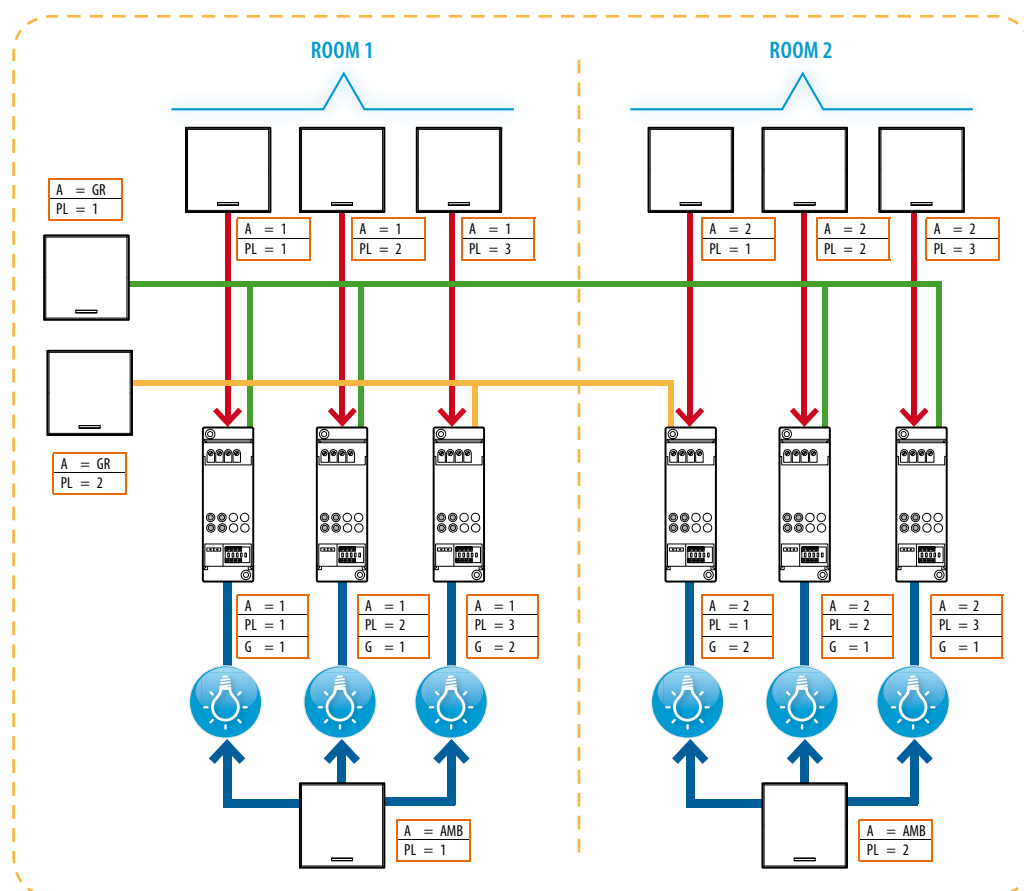
Actuator:  $A = n^*$   $PL = n^*$

$n^*$  = any numeric configurator from 1 to 9

## GROUP CONTROL

Direct control to all the actuators  
which perform particular functions  
even if they belong to different  
rooms and are identified by the same  
“group number”.

*Example: control of all the lamps of a floor, on the North side of the building*



Control device: A = GR PL = n\*

Actuator: A = n\* PL = n\* G = n\*

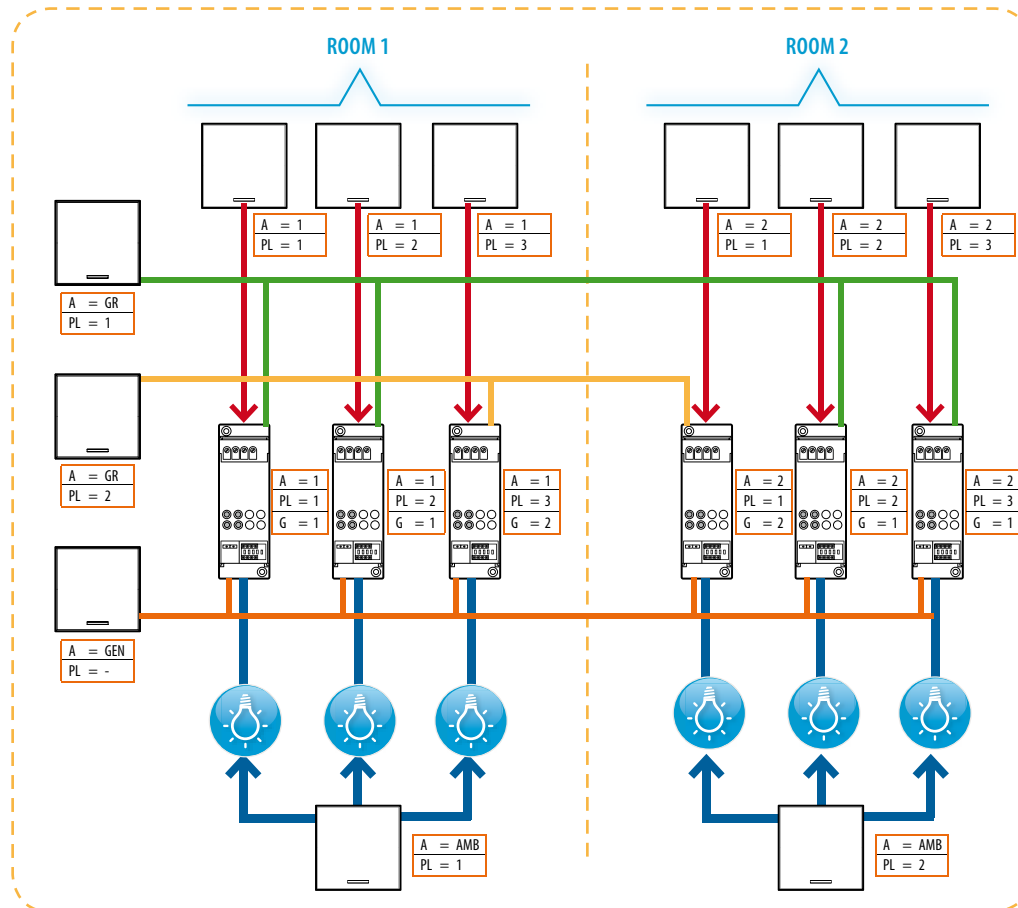


## Addressing levels

### GENERAL CONTROL

Direct control to all the system actuators

*Example: control of all the lamps of the building*



Control device: A = GEN PL = /

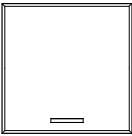

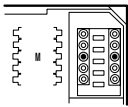
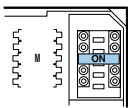
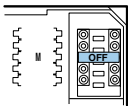
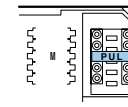
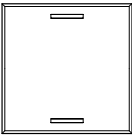

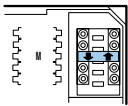

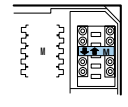

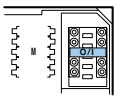
Actuator: A = n\* PL = n\* G = n\* n\* = any numeric configurator from 1 to 9

## Main operating modes

The devices in the automation system can perform different functions, such as setting the brightness, switching lamps on/off or opening/closing rolling shutters.

The function performed, i.e. what the device must do, is defined by putting configurators into the housings marked with M of the control devices and completing the devices with keys and key covers (if the devices

are flush mounted). The table below lists the various operating modes as a function of the configurator and type of key cover used in the device.

CONTROL TABLE		
Key covers	Configurator value (M)	Function performed
<b>1 FUNCTION</b>  	 no configurator	Cyclical ON-OFF control Repeatedly pressing the relay actuators device key cover, ON and OFF controls will be sent in a cyclical way. With dimmer actuators, keep the pushbutton pressed to adjust the load power.
	 configurator <b>ON</b>	ON control When pressing the corresponding key cover, the device sends the ON control.
	 configurator <b>OFF</b>	OFF control When pressing the corresponding key cover, the device sends the OFF control.
	 configurator <b>PUL</b>	Monostable ON-OFF control (pushbutton) This mode can perform an ON/OFF control similar to the control of a traditional point-point pushbutton, thus intended just for one address.
<b>2 FUNCTIONS</b>  	 configurator 	Bistable control with hold (UP-DOWN for rolling shutters) Pressing the key cover (lower or upper) sends the UP-DOWN control to the rolling shutter motor. After the control has been sent, press the lower or upper key cover again, to stop the rolling shutter in the required position.
	 configurator  <b>M</b>	Monostable control (UP-DOWN for rolling shutters) The device sends an UP-DOWN control for a rolling shutter motor as long as the lower or upper key cover is pressed. When the key cover is released, the motor STOPS.
	 configurator <b>O/I</b>	ON/OFF control Used with relay actuators, when the upper key cover is pressed the device sends an ON control; when the lower key cover is pressed the device sends an OFF control. With dimmer actuators, pressing the upper and lower key cover adjusts the load power.

## Main operating modes

### CEN OPERATING MODE



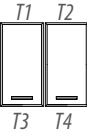
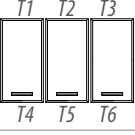
This particular mode is used to manage scenario programmer devices MH200N.

As described in the pages of this guide, the device can manage even complex scenarios activated automatically after events in the system or manually by pressing a key of a control device configured

with the CEN configurator in the M position. The key (upper or lower) of the control device and the scenario to be activated are linked through the TiMH200 program written to create the scenarios and then saving them in the MH200N device.

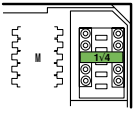
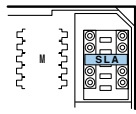
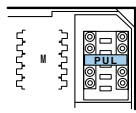
For example, two independent scenarios can be activated using the special control H/L4651M2,

AM5831M2, by pressing the T1 (upper) and T2 (lower) pushbuttons. For the correspondence between the control keys and the scenarios to activate see the table:

Type of control	Configuration	Identification of scenario activation keys
Special control H/L4651M2 and AM5831M2	A=0-9; PL=0-9; M=CEN; LIV1/AUX=0; LIV2=0; SPE=0; I=0	
Basic control for 2 independent loads H/L4652/2 and AM5832/2	A1=0-9; PL1=0-9; M1=CEN; A2=0; PL2=0; M2=0	
	A1=0-9; PL1=0-9; M1=CEN; A2=0; PL2=0; M2=CEN	
Basic control for 3 independent loads H/L4652/3 and AM5832/3	A1=0-9; PL1=0-9; A2=0; PL2=0; A3=0; PL3=0; M=CEN	

### MAIN ACTUATOR OPERATING MODES

The actuators can be configured for the following operating modes:

ACTUATOR TABLE	
Configurator value (M)	Function performed
 configurator 1÷4	<b>Special functions</b> This mode can perform special functions (OFF delayed, STOP timed) on the basis of the type of actuator used (single or double) and the numeric configurator inserted.
 configurator SLA	<b>Slave</b> This mode can perform a control with two or more actuators. In practice the actuators with the SLA (Slave) configurator repeat the function performed by another actuator which acts as Master. The actuators must have the same addresses and must be of the same type (either all light actuators or all rolling shutter actuators).
 configurator PUL	<b>PUL</b> The device does not operate with the Room and General controls.

## Examples of configuration

The drawing shows a system for the management of three lamps and three shutters. Each actuator is identified by three numbers: Room number (A), device progressive number (PL for light actuators and PL1 and PL2 for shutter actuators) and Group (G) of belonging.

### DEFINING THE ADDRESSES

#### Point-point control

Control 1 (A = 1, PL = 1) controls actuators 1 (A = 1, PL = 1 and G = 1). In the same way control 2 (A = 1, PL = 2) controls actuator 2 (A = 1, PL = 2 and G = 1) etc..

#### Room control

Room control 8 (A=AMB, PL=2) controls actuators 4 and 5 marked with A=2

#### Group control

Group control 7 marked with A=GR and PL=1, controls actuators 1 and 2 marked with G=1

#### General control

The devices identified A=GEN and PL= - (no configurator) send a general control to all the actuators, for the lights and for the shutters, in the system.

*NOTE: The actuators which manage the shutters, unlike those for the lights, are configured in the same way in the two positions PL1 and PL2.*

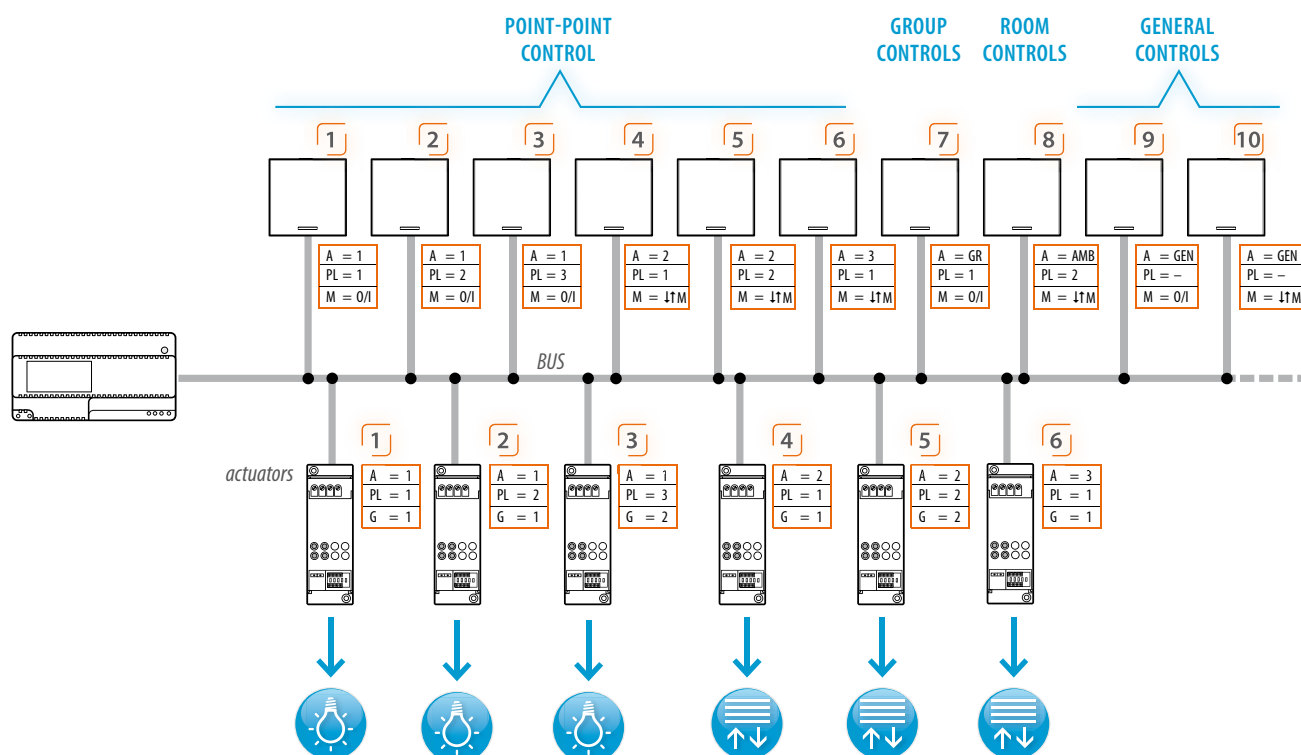
receiving the control (one only, a group or several room actuators) and from the configurators in position M to define the function (ON/OFF or ON/DOWN).

### CONTROL OPERATING MODE

The configurator inserted in position M of each control device identifies the operating mode.

The O/I configurator specifies a lamp switching on control which is given by pressing the upper key cover (ON) and the lower key cover (OFF).

The configurators  $\uparrow\downarrow$  and  $\uparrow\downarrow$  M in position M instead specify a control to manage the rolling shutters intended for actuators 4, 5 and 6.




## Maximum distances and absorptions

This chapter outlines the details for ensuring a correct realisation of a MY HOME automation system:

- Selv classification
- Maximum distances and absorptions
- Maximum number of devices which can be configured

### SELV CLASSIFICATION

The automation system is SELV (Safety Extra Low Voltage) classified due to the fact that it is powered using double safety insulation  independent devices, not connected to the earth, and with maximum operating voltage of 27 Vdc, non-undulated, in accordance with CEI EN 600065. It is therefore comparable to a SELV source as described in point 411.125 of CEI 64-8-4. The conformity to SELV classification is only guaranteed subject to full compliance with current installation regulations, and with the general rules for installation for each single device and cable making up the system recommended by BTicino.

### MAXIMUM DISTANCES OF THE BUS CABLE AND ABSORPTIONS

The maximum number of devices that can be connected to the BUS depends on their total absorption and on the distance between the connection point and the power supply. The power supply unit can deliver up to 1200 mA or 600 mA; ihence, the maximum number of devices will be determined by the sum of the absorptions of the single devices you need to install.

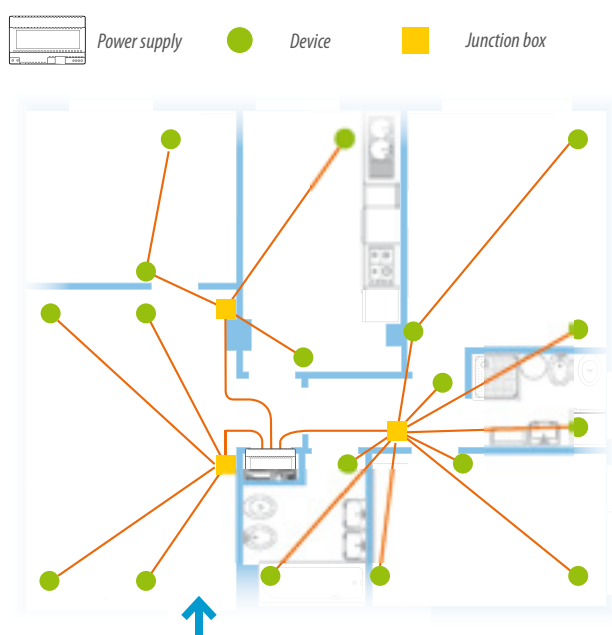
For the purpose of the above calculations, refer to the TECHNICAL DATA shown in the Technical Sheets chapter.

When calculating the absorptions, it is also necessary to consider the

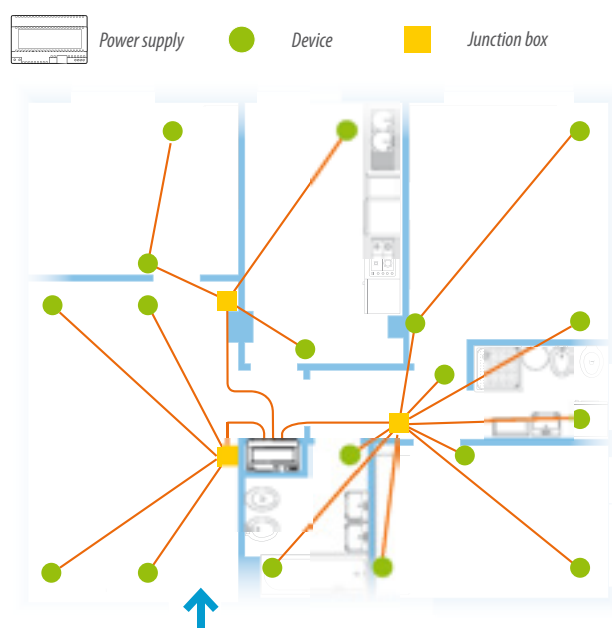
availability of current according to the length of the cable.

When setting up, please observe the following rules:

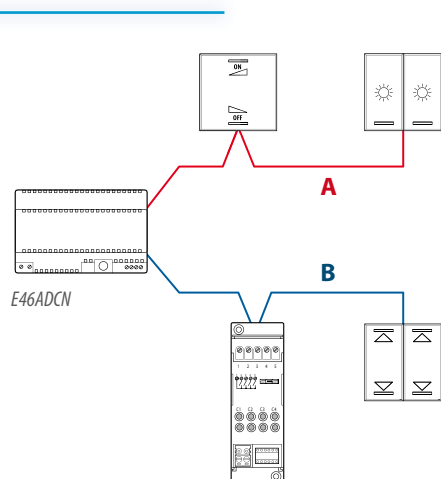
- 1 The connection between the power supply and the furthest away device must not be longer than 250m.



- 2 The total length of the connections must not be more than 500 metres (extended cable).



- 3 For optimum division of the currents on the BUS line power supply should be positioned in the middle.



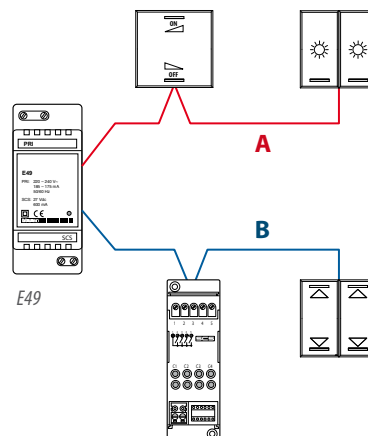
With Power supply E46ADCN:

**A** = 250 m max

**B** = 250 m max

**A + B** = 500 m

Maximum current supplied from the power supply 1200 mA.



With Power supply E49:

**A** = 250 m max

**B** = 250 m max

**A + B** = 500 m

Maximum current supplied from the power supply 600 mA.

NOTE: If a UTP5 cable is used instead of a BUS L4669 cable, distances must halved.

## Maximum distances and absorptions

### MAXIMUM DISTANCES FOR THE CONNECTION OF ACTUATORS DEPENDING ON THE LOAD

In order to manage some types of loads correctly, it is necessary to observe the installation specifications for all actuators used.

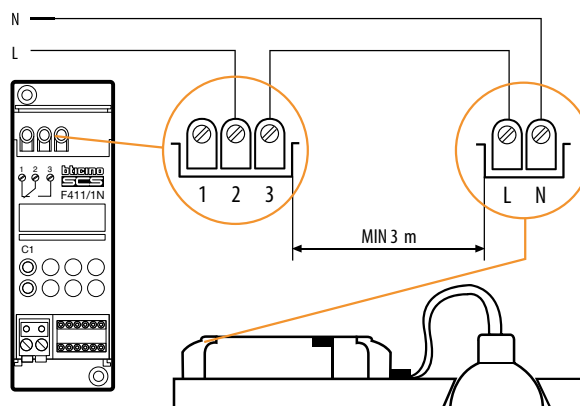
- Fluorescent lamps: the length of the connecting cable between the actuator and the load must not be less than 3m. Do not connect more than 15 actuators controlling this type of lamp on the same line.
- Metallic iodide and sodium-vapor lamps: in addition to the indications given for the fluorescent lamps, please pay attention to the operating instructions of these lamps (for example, avoid switching on when hot), do not connect dimmers to the same line of these lamps, keep the bus line and the power line of these lamps separated from each other (at least 1 metre)
- Three-phase networks: when using three-phase networks, check the balance of the phases as well as the quality of the network.

Non-compliance of the above regulations may affect proper operation of the devices.

### MAXIMUM DISTANCE FOR CONNECTING THE CONTACT INTERFACE

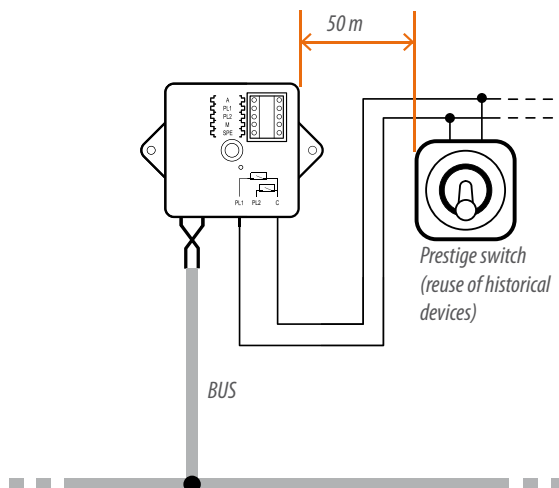
The connection between the interface (basic or DIN module) and the traditional type device must not exceed 50 metres in length. Several pushbuttons may be connected to the interface inputs.

Example of connection with F411/1N



Warning: Refer to the technical data shown on the technical sheets for each actuator

Maximum distances for connecting the contact interface



## ABSORPTIONS, SIZE AND DISSIPATIONS

Item	Description	Absorption from Bus (power supply 27 Vcc)	Size	Dissipation	
				Dissipated power with max. load	Max. load
3475	actuator	13 mA	Basic module		
3476	control actuator	13 mA	Basic module		
3477	contact interface	3.5 mA	Basic module		
E46ADCN	power supply		8 DIN modules	11 W	1.2 A
				6 W	0.5 A
E49	mini power supply		2 DIN modules	5.3 W	
F411/1N <sup>1)</sup>	1-relay actuator	22 mA	2 DIN modules	1.5 W	
F411/2 <sup>1)</sup>	2-relay actuator	28 mA (single loads) 15.5 mA (interlock)	2 DIN modules	1.7 W	
F411/4 <sup>1)</sup>	4-relay actuator	40 mA (single loads) 22 mA (interlock)	2 DIN modules	3.2 W	
F412 <sup>1)</sup>	1-relay NC/NA actuator	20 mA	2 DIN modules	1.5 W	
F413N <sup>1)</sup>	output 1 to 10 for ballast	30 mA	2 DIN modules	0.5 W	
F414	DIN dimmer	9 mA	4 DIN modules	11 W	1000W
				5 W	500W
F415	DIN dimmer	9 mA	4 DIN modules	11 W	400W
F522	actuator 16A with current sensor	30 mA	1 DIN module		
F523	actuator 16A	10 mA	1 DIN module		
F420	scenario module	20 mA	2 DIN modules	0.6 W	
F422	SCS/SCS interface	IN: 25 mA OUT: 2mA	2 DIN modules	1 W	
F425	memory module	5 mA	2 DIN modules	0.1 W	
F426	SCS/EIB interface	30 mA	6 DIN modules		
F427	OPEN KNX interface		6 DIN modules		
F428	contact interface	9 mA	2 DIN modules	0.2 W	
F429	SCS/DALI interface	5 mA	6 DIN modules		
H/L4651M2 AM5831M2	special control	6 mA for H4651M2 8.5 mA for L4651M2 and AM5831M2	2 flush-mounting mod.		
H/L4652/2 AM5832/2	control for 2 actuators	9 mA	2 flush-mounting mod.		
H/L4652/3 AM5832/3	control for 3 actuators	9 mA	3 flush-mounting mod.		
H/L4671/1 AM5851/1	1-relay actuator	16.5 mA	2 flush-mounting mod.	0.9 W	
H/LN4671M2 AM5851M2	control/actuator	14 mA	2 flush-mounting mod.		
H/L4678	flush-mounting dimmer	9 mA	2 flush-mounting mod.	3 W	300 W
H/L4684	colour Touch Screen	80 mA	3+3 flush-mounting mod.		
HD/HC/HS/L/N/NT4575SB	SB receiving radio interface	33 mA	2 flush-mounting mod.		
HD/HC/HS/L/N/NT4607	protected control	15 mA	2 flush-mounting mod.		
HD/HC/HS/L/N/NT4607/4	protected scenario control	12 mA	2 flush-mounting mod.		
HD/HC/HS/L/N/NT4610	fixed IR detector	4.5 mA	2 flush-mounting mod.		
HD/HC/HS/L/N/NT4611	swivel IR detector	4.5 mA	2 flush-mounting mod.		
HD/HC/HS/L/N/NT4672N	16 A flush mounted 2 module actuator	10 mA	2 flush-mounting mod.		
HD/HC/HS/L/N/NT4680	scenario control	9 mA	2 flush-mounting mod.		
BMSE1001	passive infrared ceiling sensor	10 mA	l=75/p=40/h=20		
BMSE2001	wide band wall/ceiling sensor	12 mA	l=115.86/p=69.6/h=91		
BMSE2002	narrow band wall/ceiling sensor	12 mA	l=115.86/p=69.6/h=92		
BMSE2003	two-way narrow band wall/ceiling sensor	12 mA	l=115.86/p=69.6/h=93		
BMSE2004	one-way narrow band wall/ceiling sensor	12 mA	l=115.86/p=69.6/h=94		
BMSE2005	double technology band wall/ceiling sensor	17 mA	l=115.86/p=69.6/h=95		
F416U1	dimmer actuator1000W TC	5 mA	6 DIN modules	8 W	1000 W
F417U2	dimmer actuator1000W 2x400 W TC	5 mA	6 DIN modules	8 W	2 X 400 W
BMDI1001	dimmer actuator1000W 1/10 V	5 mA	6 DIN modules		
BMSW1001	1-relay 230 Vac actuator	5 mA	4 DIN modules	1.2 W	
BMSW1002	2-relay 230 Vac actuator	5 mA	4 DIN modules	1.7 W	
BMSW1003	4-relay 230 Vac actuator	5 mA	6 DIN modules	2.8 W	

### NOTE:

1) the power dissipated indicated is that corresponding to the device with all the relays loaded at the load maximum. If the load is less the dissipated power is less and may be calculated by means of the following formula:  $P[mW]=140+400 \cdot N+10 \cdot [I_{12}+I_{22}+...I_{N2}]$

P: dissipated power in mW,

N: no. of loaded relays

IN: load current corresponding to the N relay.

Install the items with greater dissipated power (in special power supplies and dimmers) in lower positions in the switchboard for easier heat dissipation.

Do not place devices which dissipate a power greater than 5W side by side, but leave an empty module between them.



## Maximum distances and absorptions

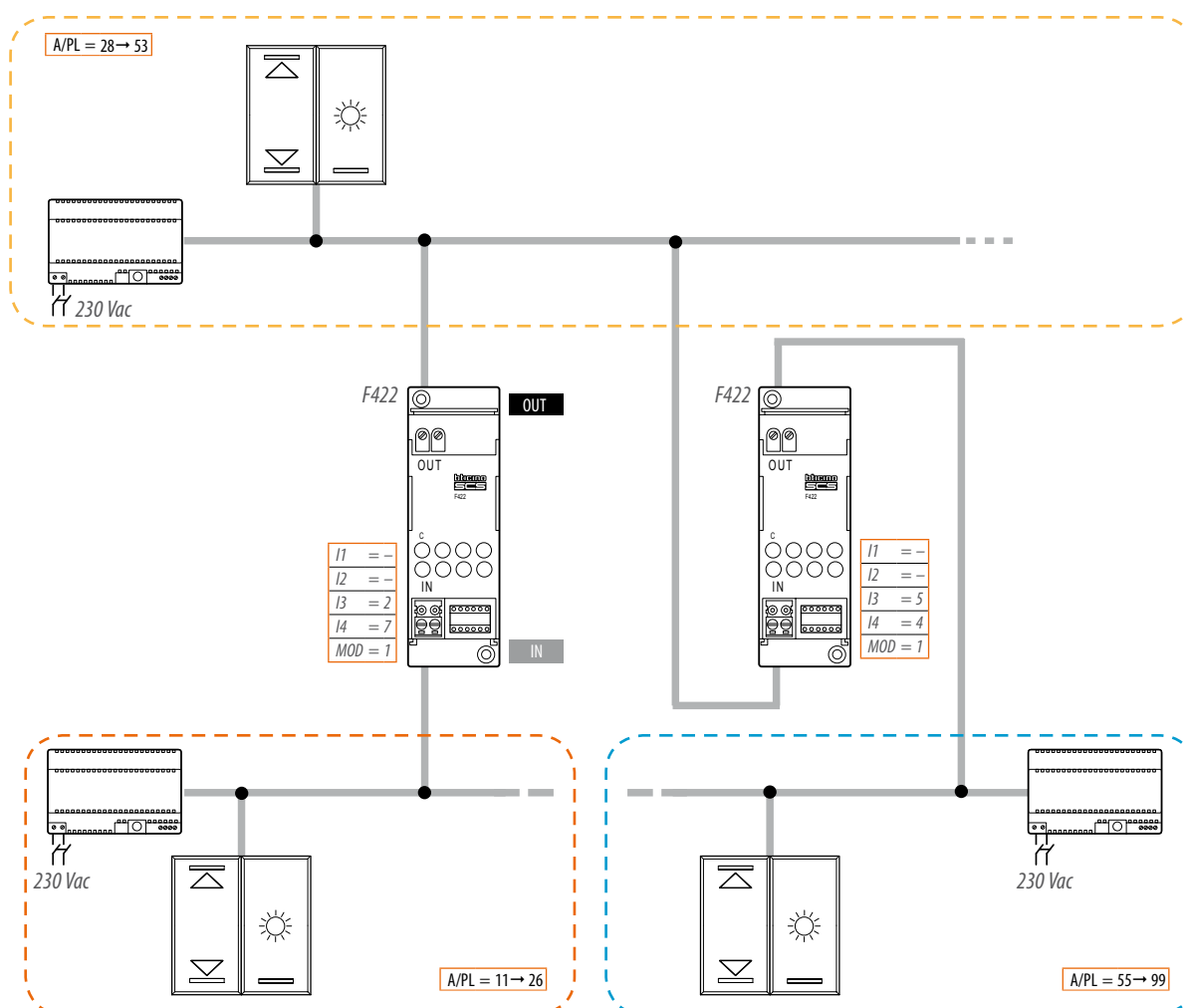
If the absorption of the whole system is less than 600 mA, the E49 compact power supply can be used. If the absorption is between 600 and 1200 mA, use the E46ADCN power supply. For extended systems with current absorption over 1200 mA or 600 mA powered by power supplies E46ADCN and E49, it will be necessary to split the system into several lines, each powered by its own power supply and connected to each other using interface F422 configured in "Physical expansion" mode.

### PHYSICAL EXPANSION MODE

Limit systems shall be applied to each bus in terms of absorption and maximum wiring distance, as shown in the previous page. Therefore, it is not possible to supply a system consisting of two or more buses with only one power supply unit E46ADCN or E49, connected to each other by interfaces configured in "physical expansion" mode even if the number and type of components connected to the system do not exceed the set maximum absorption (1200 mA).

Positions I3 and I4 shall be configured according to the configuration of the Automation devices in the two systems connected to each other. With reference to the picture, let us suppose, for example, that I3=2, I4=7:

- on the input bus (IN), the addresses of Automation devices No. 1 must be between  $A=1 / PL=1$  and  $A=2 / PL=6$ ;
- on the output bus (OUT), the addresses of Automation devices No. 2 must be between  $A=2 / PL=8$  to the address of the next interface.



## INSTALLATION RULES

When setting up the system, consider the following recommendations:

- The buses, connected to the interface input and output, must be supplied with their own power supply unit; additionally, the system limits apply for each of them, in terms of absorption and maximum distance.
- Therefore, it is not possible to supply a system consisting of two or more buses with only one power supply unit (E46ADCN or E49) connected to each other by various interfaces configured in physical expansion mode even if the number and type of components connected to the system do not exceed the set maximum absorption (1200 mA).
- It is not possible to connect two interfaces in parallel to the same BUS
- It is possible to use up to 4 interfaces in series, which divide the system into 5 separate sections.
- The F420 scenario module, the F425 memory module, and the devices that can be configured using the self-learning mode must be installed on the bus section corresponding to their own local address. For example if the scenario module is configured as A=0 (no configurator), PL=1, it will have to be placed on section 1 of the system. The energy management system central unit F421 and the control panel N4682 must be installed on the BUS with the highest addresses (system no. 3 in the example).

## Maximum number of devices which can be configured

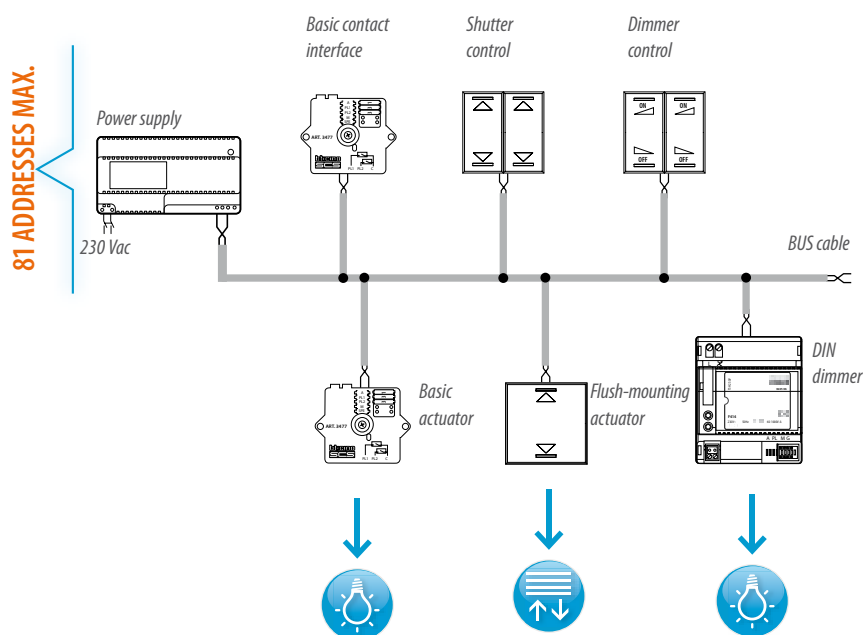
### PHYSICALLY CONFIGURED

#### SINGLE SYSTEM

A single system can manage up to 9 rooms (A). For each room, it will then be possible to manage up to 9 light

points (PL), for a total of 81 addresses. To these addresses, any inclusion in one or more groups must be added.

It is also possible to have several devices with the same address.

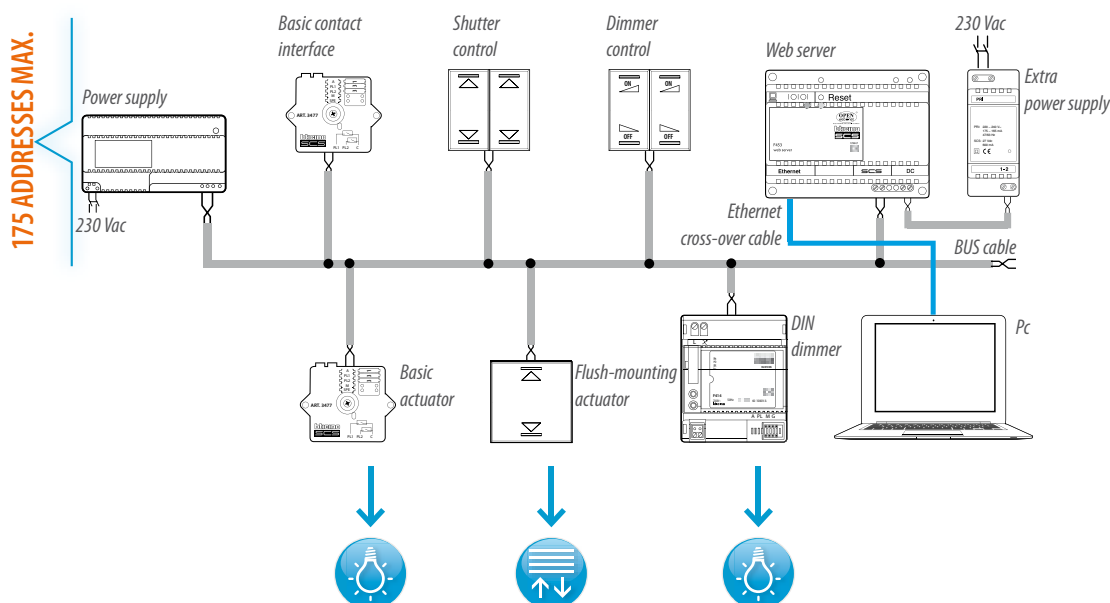


### VIRTUALLY CONFIGURED

#### SINGLE SYSTEM

A single system can manage up to 11 rooms (A=0-10). For each room it will then be possible to manage up to 16

light points (PL=0-15), for a total of 175 addresses (the address A=0, PL=0 is not permitted).



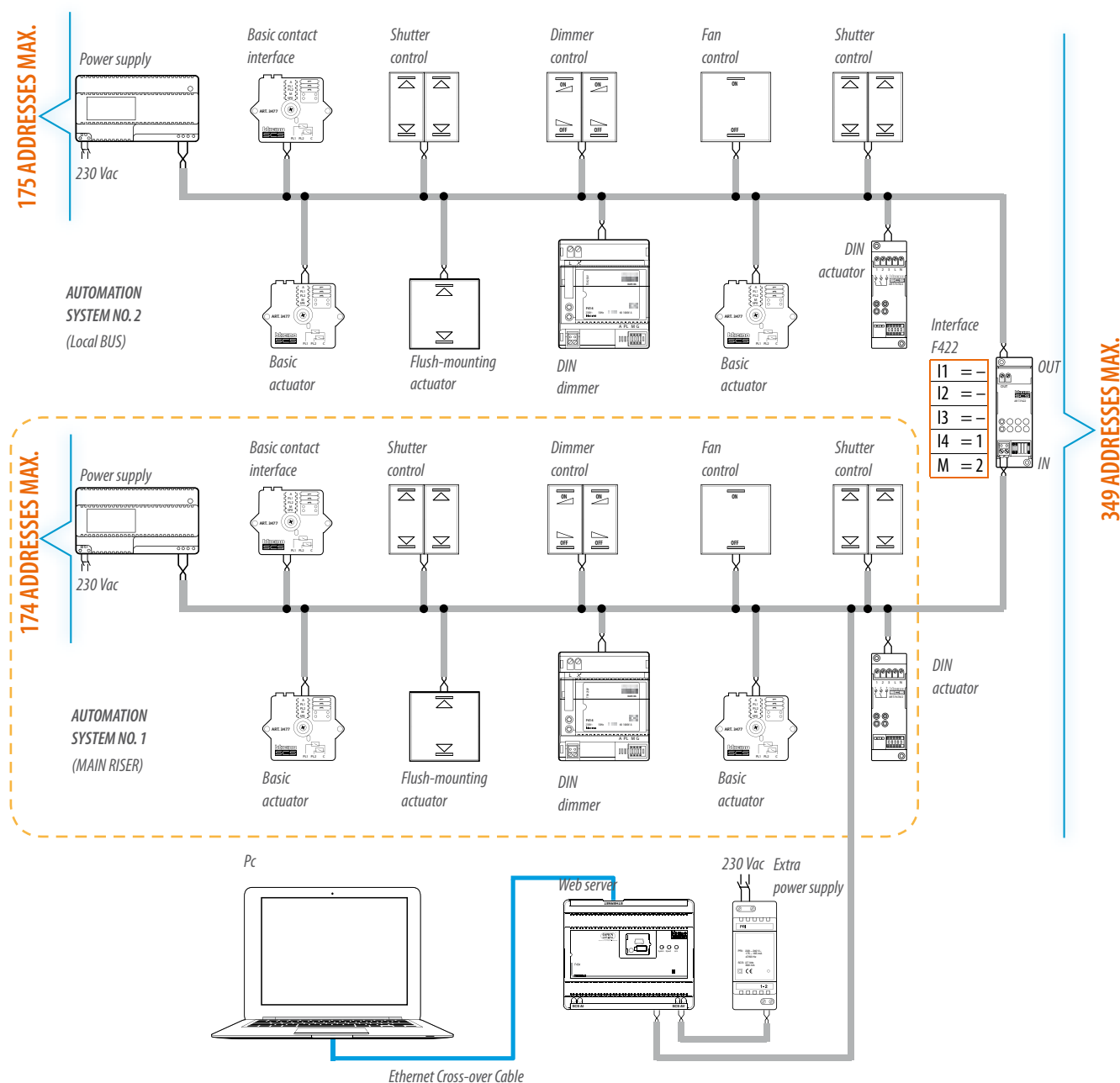
# Logical expansion of the addresses

## VIRTUALLY CONFIGURED EXTENDED SYSTEM WITH ONE F422 INTERFACE

In larger homes, or in the service sector, there might be the need for Automation systems with a higher number of functions than the above.

In this case, it is possible to create an extended Automation system

using interface F422 configured in the "logic expansion" mode: with configurator NO. 2 in position M, and No. 1 in I4.



## Logical expansion of the addresses

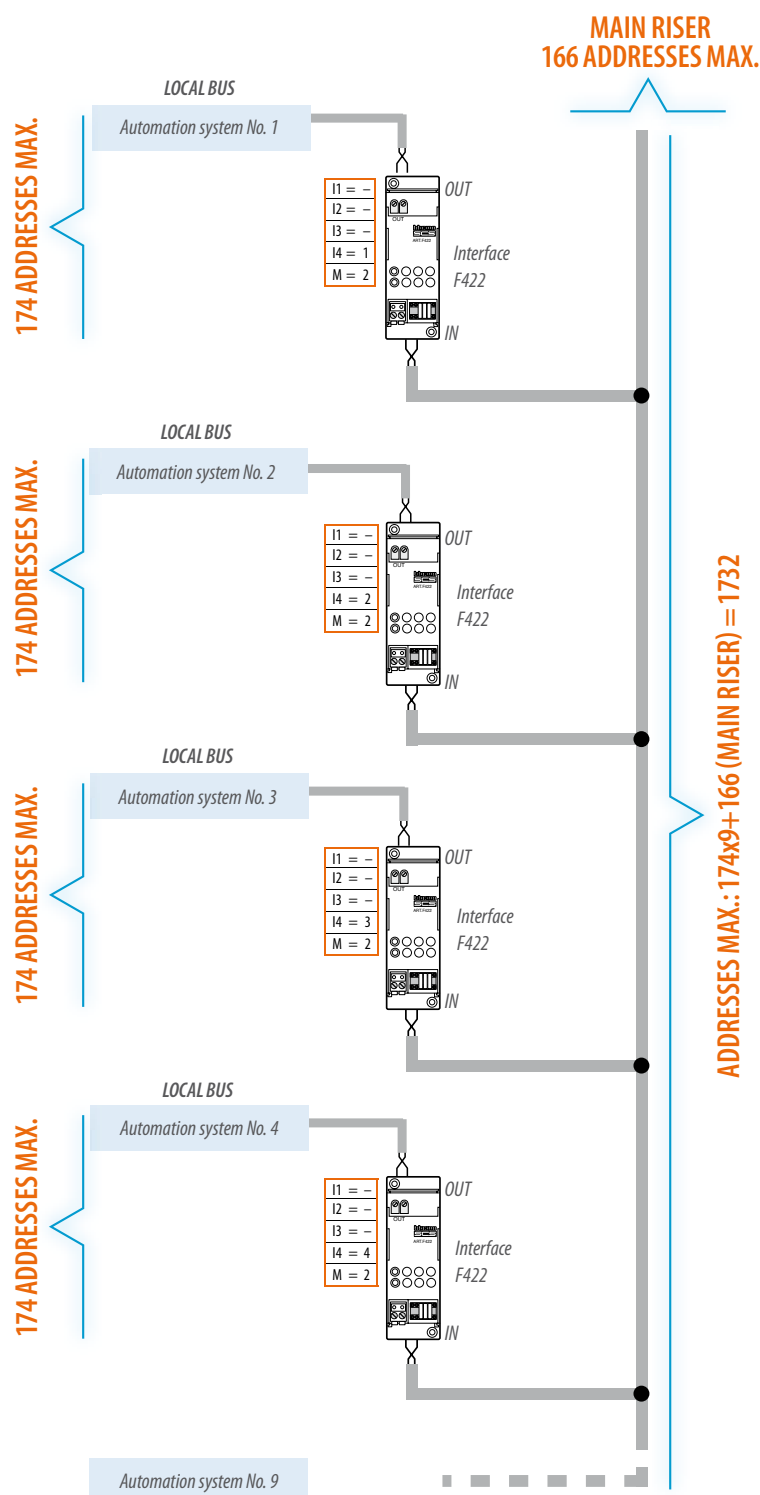
### VIRTUALLY CONFIGURED EXTENDED SYSTEM WITH SEVERAL F422 INTERFACES

If three or more systems (up to a maximum of 9) must be combined, these must be connected by means of interfaces F422 with a common bus, which from now on we will call "riser", on which the control, activation and management (for example Touch Screen) devices can also be installed because they belong to the Automation system. The riser cannot be made, for example, with a Burglar-alarm or 2 wire Video door entry system. The F422 interfaces are configured for operation in "logic expansion" mode, connecting configurator no. 2 to the M position and configuring the address of position I4 with configurators from 1 to 9, as per the following diagram. For each of the 9 systems there will be 174 configuration addresses available, excluding the interface address, as well as 166 addresses on the riser, for a total of 1732 addresses.

#### Warnings:

- In the main riser it is possible to install control devices configured to send GROUP or GENERAL controls to some or all of the actuators situated in the single systems and in the same main riser.
- POINT-POINT controls generated inside each single system and on the main riser can reach the actuators situated in the whole system only if they are sent from the appropriately configured SPECIAL control device H/L4651M2, AM5831M2 situated on the main riser or on one of the single systems (max 9) connected.

- If you need to control and execute the centralised management of the system with Web Server, Touch screen and Energy Management Control Unit, these devices will have to be installed in the main riser.



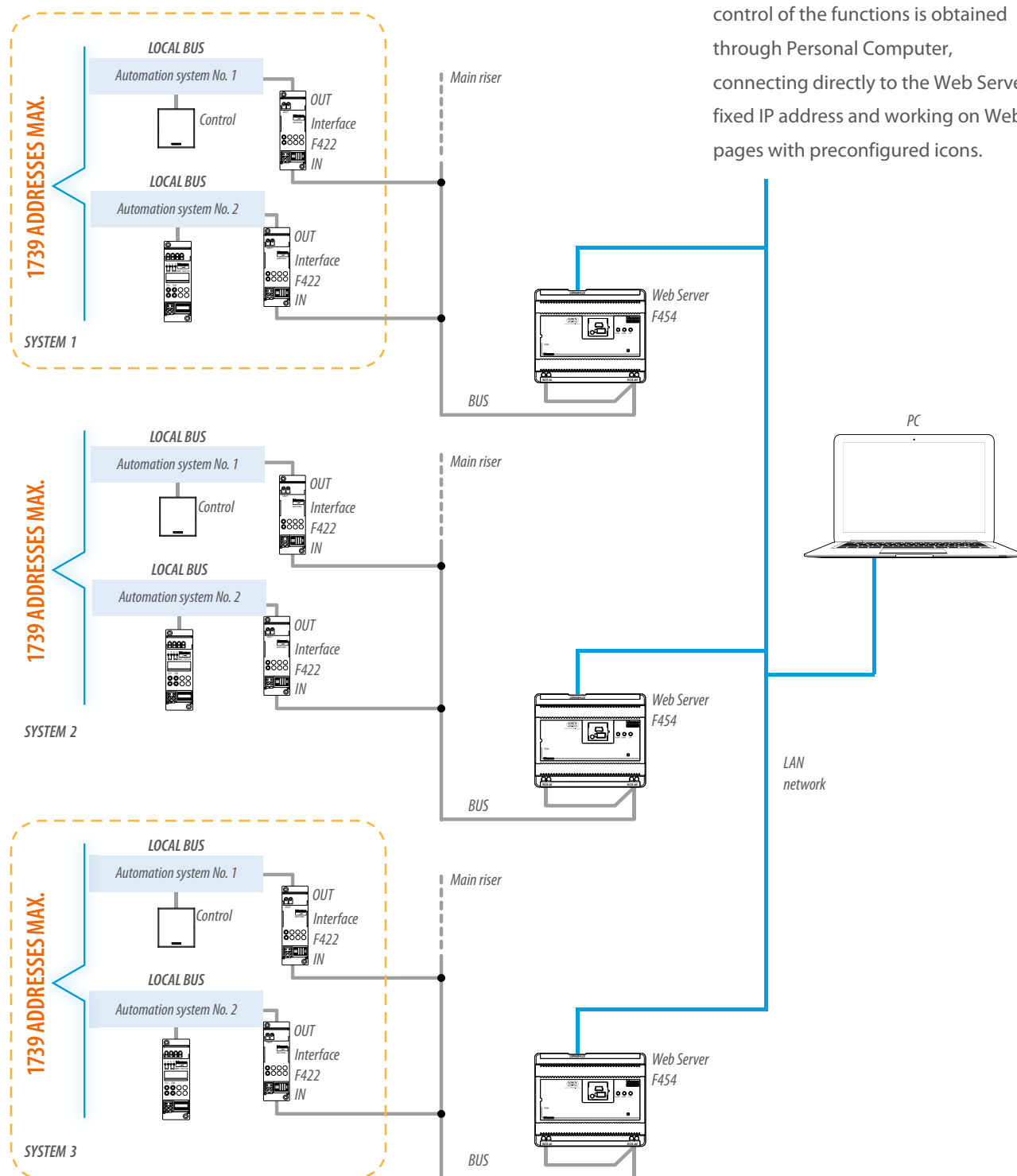
## EXTENDED SYSTEM WITH INTERFACE F422 AND WEB SERVER

Special systems for which the availability of more than 1739 addresses is required can be made

using one or more Web Servers F454 and a LAN network which forms the connection infrastructure.

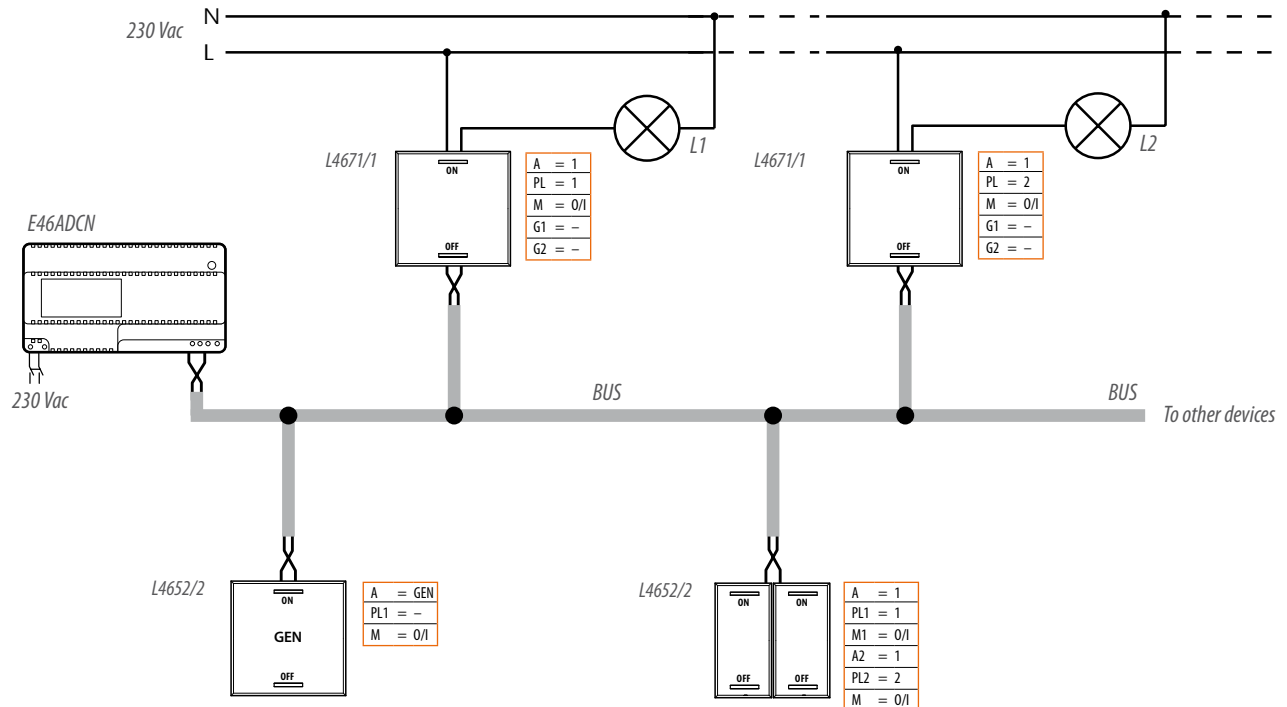
Referring to the picture below, in this

case the extended system is made up of two or more systems for each of which a maximum of 1739 addresses can be configured. The centralised control of the functions is obtained through Personal Computer, connecting directly to the Web Server fixed IP address and working on Web pages with preconfigured icons.

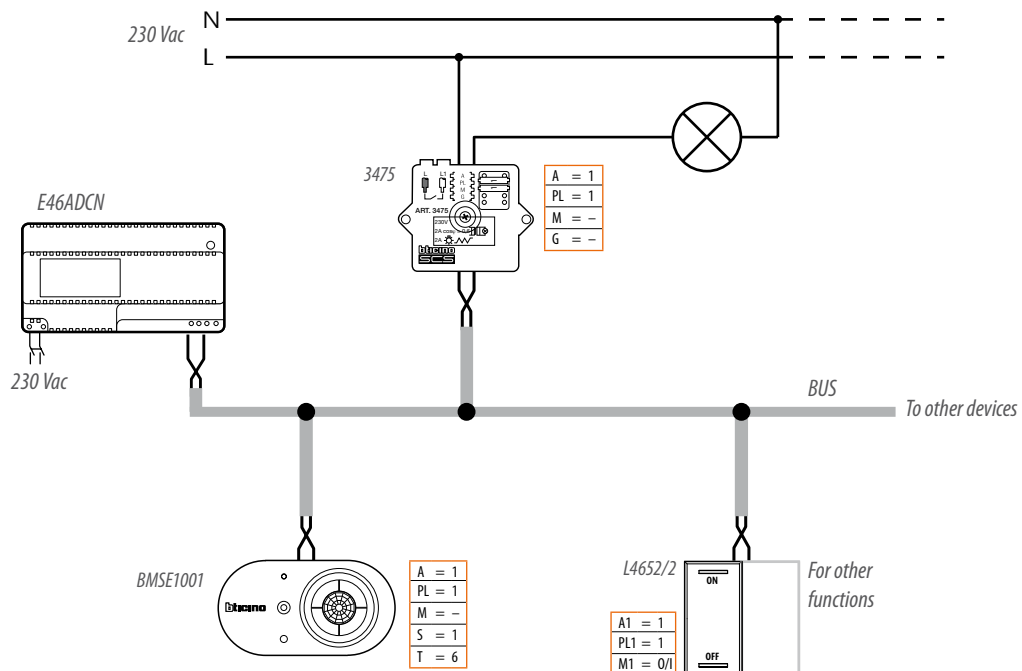


## Lighting management

**DIAGRAM 1 SWITCHING ON/OFF OF 2 LAMPS FROM 4 LIGHT POINTS WITH GENERAL ON/OFF CONTROL**



**DIAGRAM 2 AUTOMATIC SWITCHING ON OF THE LIGHT WITH PASSIVE INFRARED CEILING SENSOR**



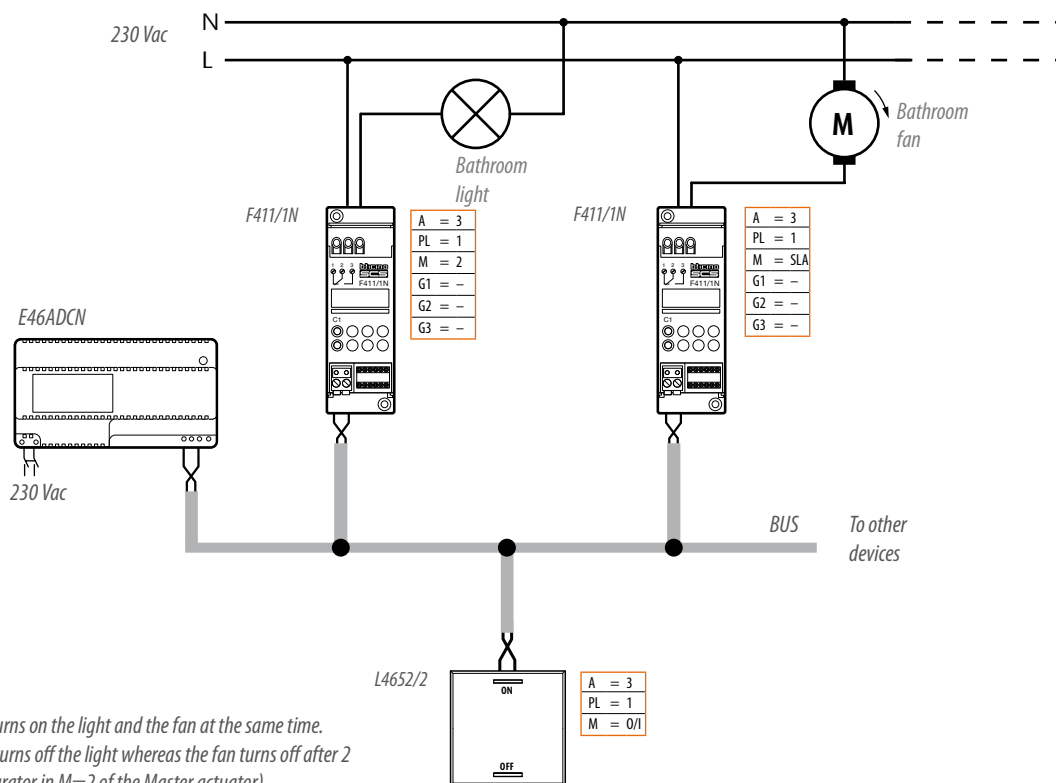
The device controls the load with the address indicated in A and PL. When a movement is detected, if the lighting level is lower than the set level, the device switches the assigned load on, and keeps it on until the time set with the configurator connected to T expires. The PIR movement sensor sensitivity is set with the configurator connected to S. For correct operation the sensor Lighting set point must be defined (see procedure). If the user switches the light off manually with a control device, the movement sensor is disabled until a presence is detected, for a time set in T.





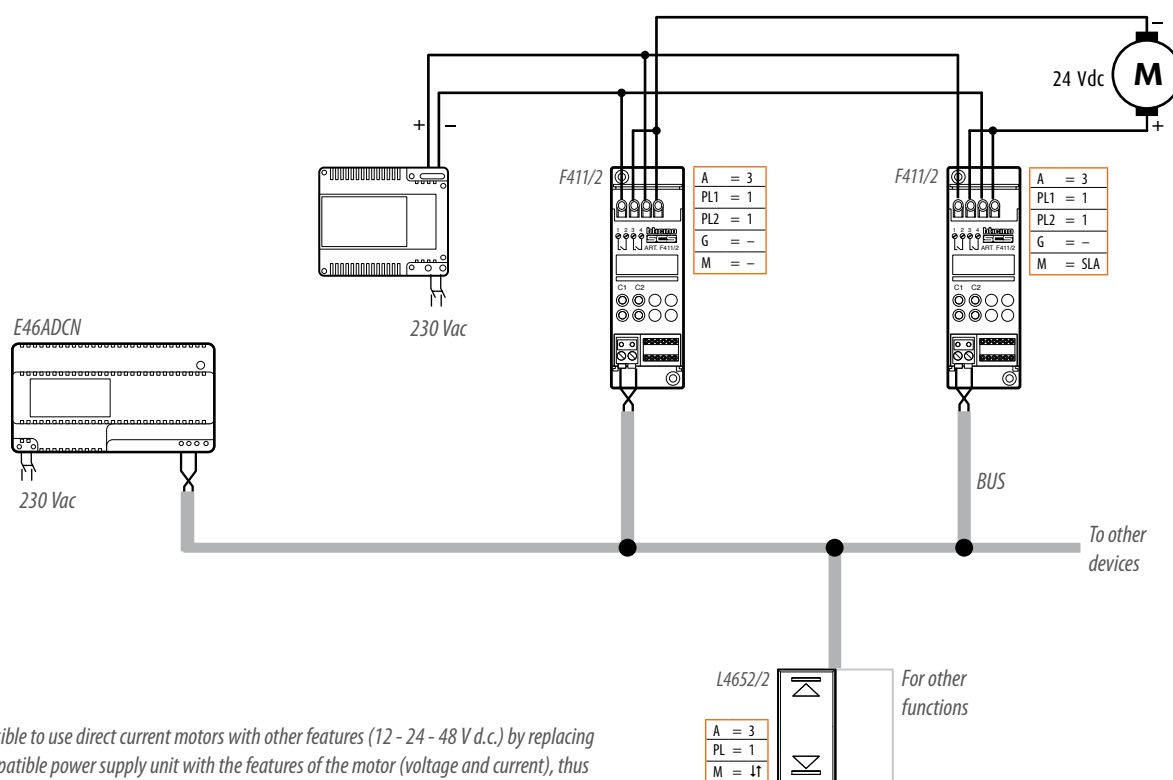
## Management of different loads

**DIAGRAM 5 SWITCHING-ON CONTROL FOR BATHROOM LIGHT AND FAN WITH DELAYED SWITCHING-OFF**



The ON control turns on the light and the fan at the same time.  
The OFF control turns off the light whereas the fan turns off after 2 minutes (configurator in M=2 of the Master actuator)

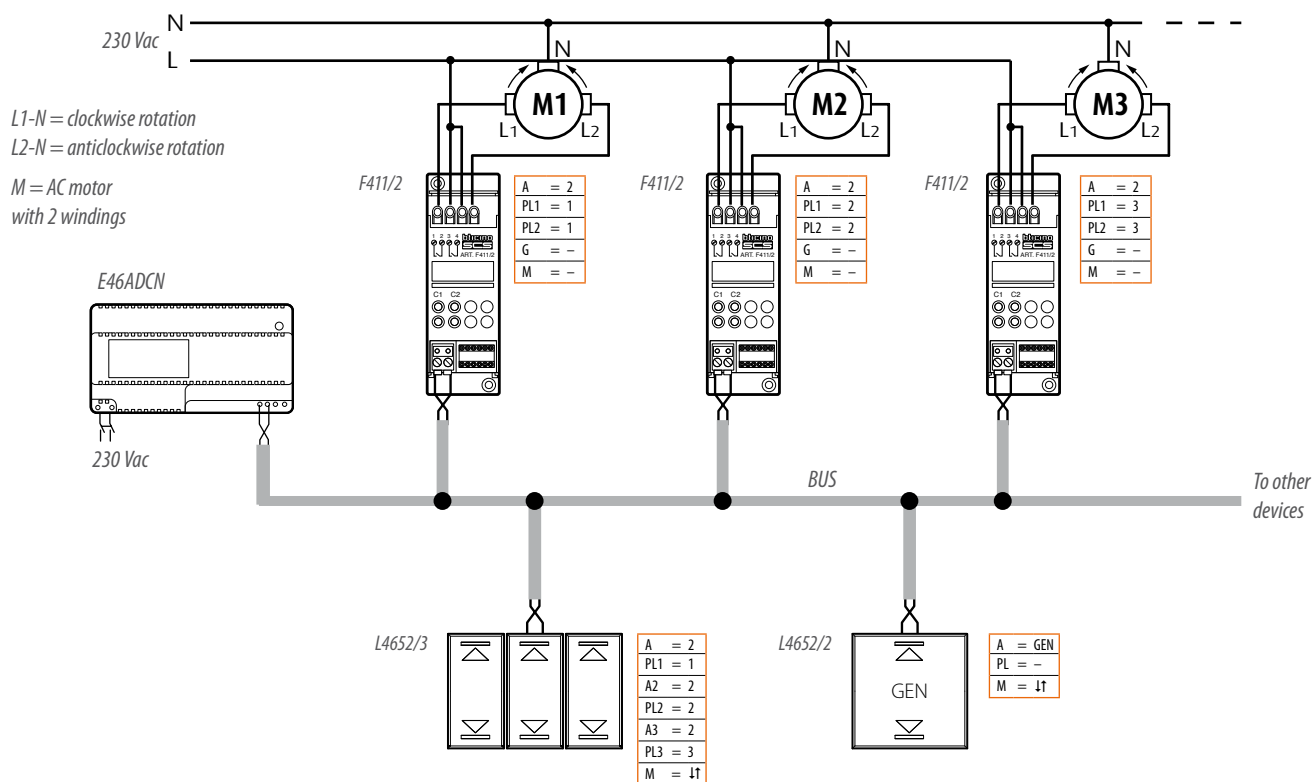
**DIAGRAM 6 MOTOR CONTROL IN DIRECT CURRENT FOR MOTORISED CURTAINS (EXAMPLE 24 V D.C.)**



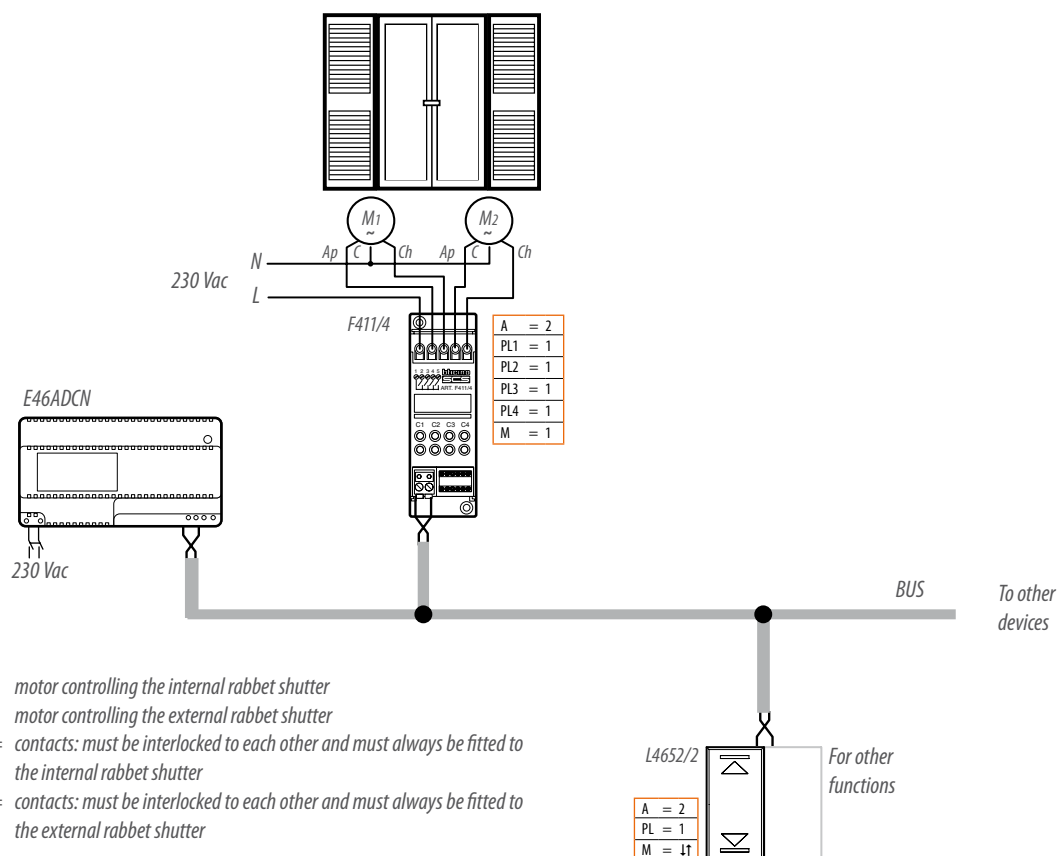
It is possible to use direct current motors with other features (12 - 24 - 48 V d.c.) by replacing the compatible power supply unit with the features of the motor (voltage and current), thus verifying the absorptions of the motor with the actuator relay capacity (F411/2).

# Window and shutter management

**DIAGRAM 7** MOTOR CONTROL IN ALTERNATED CURRENT FOR ROLLING SHUTTERS, CURTAINS OR MOTORISED SHUTTERS



**DIAGRAM 8** MOTOR CONTROL IN ALTERNATED CURRENT FOR OPENING/CLOSING MOTORISED SHUTTERS



The diagram illustrates a power distribution system for a lighting fixture. The system is powered by a 230 Vac source with Neutral (N) and Line (L) lines. The L line passes through a fuse (F413) and a switch before reaching a common busbar. The N line passes through a ballast and a switch before also reaching the busbar. From the busbar, power is distributed to two components: a lighting fixture (E46ADCN) and a control unit (L4652/2). Both components have their own 230 Vac inputs and switches. The control unit also has a section for 'other functions'.

A	= 2
PL1	= 1
M	= -
G	= -

A1	= 2
PL1	= 1
M1	= 0/1

230 Vac

N

L

DIN dimmer actuator

Incandescence lamps, halogen and ferromagnetic transformer

E46ADCN

230 Vac

BUS

To other devices

L46S2/2

For other functions

A	= 1
PL	= 2
M	= -
G	= -

A1	= 1
PL1	= 2
M1	= 0/1

# Lighting and shutter management

## DIAGRAM 11 LIGHTING AND SHUTTER MANAGEMENT SYSTEM – 100 M<sup>2</sup> HOME

The following pages give a description of an Automation system used for lighting and shutter management in a home of approximately 100 m<sup>2</sup>, consisting of living room, kitchen, two bedrooms and two bathrooms.



Functions performed by the system:



- Light general control.
- Shutters general control.
- Control of light points in each room.
- Control of shutters in each room.
- Dimmer light control point in the living room and the bedrooms.
- Central control using the Touch Screen installed in the living room.
- Recalling of scenarios with Local Display in the two bedrooms.

DISTRIBUTION COMPONENTS IN THE SINGLE ROOMS		ITEM
HALL	1 lighting general control (1) 1 shutter general control (2) 1 ceiling light point controlled by flush mounted actuator (3) 1 control (4) for the corridor light point	H4652/2 H4652/2 H4671/1 H4652/2
CORRIDOR	2 ceiling light points controlled by flush mounted actuator and 8 other points (4 - 6 - 7 - 9 - 13 - 22 - 28)	H4671/1
KITCHEN	1 ceiling light point controlled from one point (7) and by a 1 relay actuator in the DIN module (*) 1 motorised shutter controlled from 1 point (8) and by a 2 relay actuator in the DIN module (*)	H4652/2 F411/1N H4652/2 F411/2
LIVING ROOM	1 wall light point controlled from 1 point (11) with light intensity adjustment and by 1 dimmer actuator in DIN module (*) 1 ceiling light point controlled from two points (9 - 11) and by a 1 relay actuator in the DIN module (*) 1 motorised shutter controlled from 1 point (10) and by a 2 relay actuator in the DIN module (*) 1 Touch Screen (12)	H4652/2 F415 H4652/2 F411/1N H4652/2 F411/2 H4890
BATHROOM 1	1 ceiling light point controlled from one point (13) and by a 1 relay actuator in the DIN module (*) 1 motorised shutter controlled from 1 point (14) and by a 2 relay actuator in the DIN module (*)	H4652/2 F411/1N H4652/2 F411/2
ROOM 1	1 ceiling light point controlled from 3 points (16 - 17 - 18) with light intensity adjustment and by 1 dimmer actuator in DIN module (*) 1 motorised shutter controlled from 1 point (15) and by a 2 relay actuator in the DIN module (*) 1 wall light point controlled from 1 point (17) 1 wall light point controlled from 1 point (18) and by a 2 relay actuator in the DIN module (*) 1 control (20) for the Corridor Light Point 1 Local Display (19)	H4652/2 F415 H4652/2 F411/2 H4652/2 H4652/2 F411/2 H4652/2 HS4891
ROOM 2	1 ceiling light point controlled from 3 points (22 - 23 - 24) with light intensity adjustment and by 1 dimmer actuator in DIN module (*) 1 motorised shutter controlled from 1 point (21) and by a 2 relay actuator in the DIN module (*) 1 wall light point controlled from 1 point (23) 1 wall light point controlled from 1 point (24) and by a 2 relay actuator in the DIN module (*) 1 control (26) for the Corridor Light Point 1 Local Display (25)	H4652/2 F415 H4652/2 F411/2 H4652/2 H4652/2 F411/2 H4652/2 HC4685

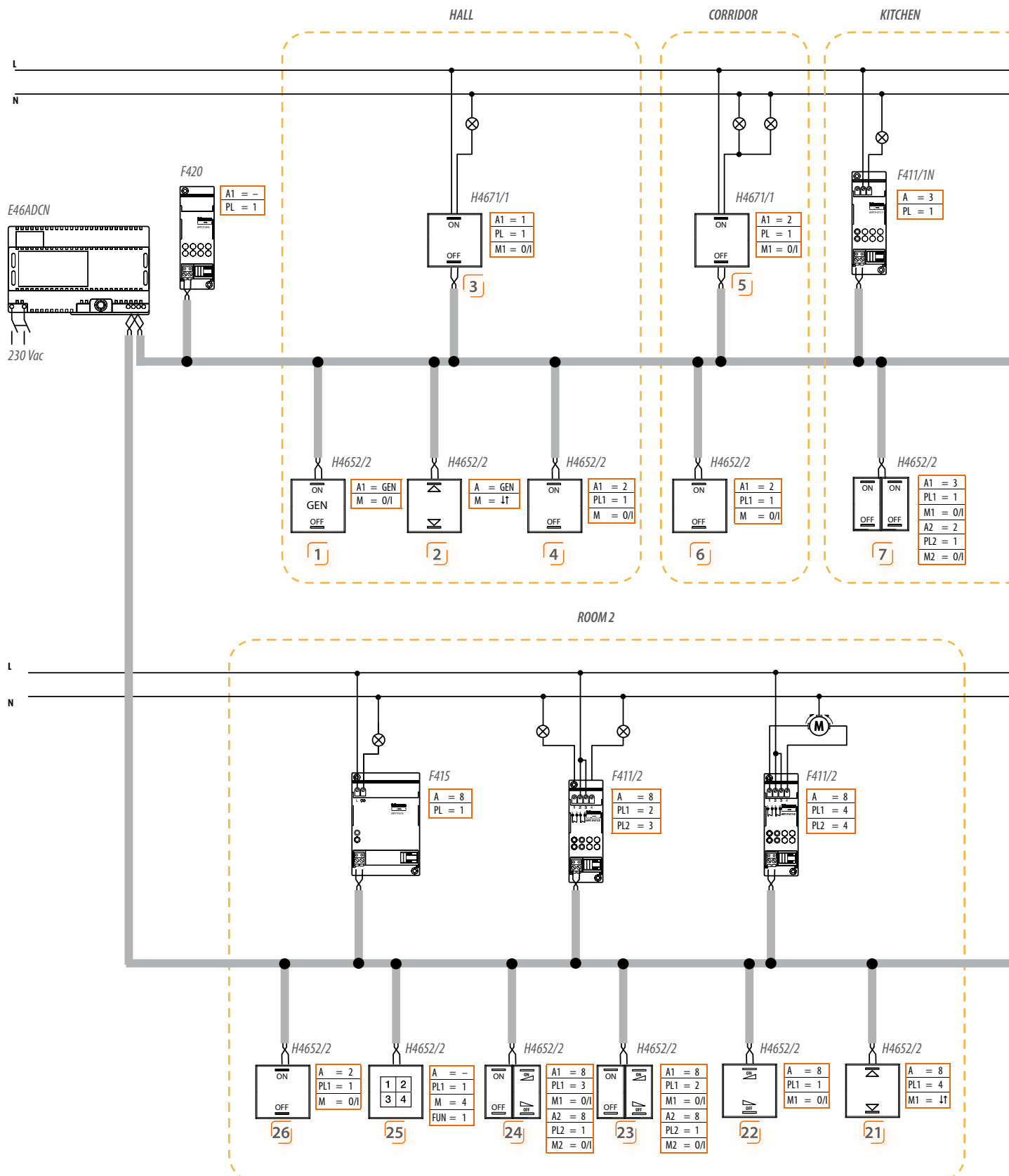
NOTE: All the controls must be completed with support, cover plate and key covers for the desired civil series. These can be found in the BTicino General Installation catalogue.  
For this specific example products of the AXOLUTE civil series have been used.

NOTE (\*): All the actuators in DIN module are installed on the 54 module home automation panel in the hall.

HOME AUTOMATION PANEL		DIN MODULES
	1 SCS power supply	8
	12 DIN actuators	24

HOME AUTOMATION PANEL		DIN MODULES
	3 DIN dimmer	12
	1 scenario module	2
		<b>Total 46</b>

# Lighting and shutter management



NOTE: for the configuration of bathroom 2 refer to bathroom 1, configuring for all the devices room A=6

