

# How about saving 12€/m<sup>2</sup> on your building?

**Roombox:**  
4-in-1 solution  
for office buildings

**Schneider**  
Electric



# Saving at every stage in your building's life cycle: it's your business

When it comes to office buildings, today's investors, developers and builders are constantly on the lookout for ways to **meet increasingly tight deadlines while keeping construction costs to a minimum**. They must also guarantee optimal user comfort and energy efficiency.

Roombox is a 4-in-1 energy optimiser designed to respond to these challenges in ways that traditional solutions cannot. **Its unique multi-application local electrical and control architecture revolutionises** the installation of building systems.

One Roombox unit controls a workspace about the size of four individual offices or a comparable amount of open-plan office space – about 50 m<sup>2</sup> – and is dedicated to **boosting energy efficiency and flexibility**.



3

# 3 key building applications

controlled by a single piece of equipment

Roombox is the only solution on the market able to power, protect and control:

- > Lighting
- > Blinds and shutters
- > Heating, ventilation and air conditioning (HVAC)



Lighting



Blinds and shutters



HVAC



Wireless remote controls for increased flexibility. Roombox allows you to control applications either locally or remotely. Each Roombox unit features an optional Zigbee-standard (IEEE802-15-4) RF transmitter/receiver module. A wide range of compatible batteryless, wireless pushbutton controls is available for even greater flexibility.

4

# 4 remote-controllable functions

> **Electrical distribution** for lighting, shutters and air conditioning



Electrical distribution

> **Energy metering**, both overall and by application type (lighting and HVAC)



Energy metering (overall and by application type)

> **Individual control** of each circuit either automatically or via local control



Individual control

> **Individual protection** of each circuit via an innovative static switch system shielding the circuit from: overloads, short-circuits, earth leakage



Individual protection



Integrated static switch system with remote reset for maximum security and minimum downtime

Each Roombox output features a static switch system for the total protection of your equipment and those who use it.

> Roombox detects fault and electronically switches off power to the circuit. For circuits linked to a supervision application via a building management system, Roombox transmits fault information to the supervision application.

> Only the faulty circuit is cut off from the power supply. This ensures uninterrupted service to other offices on the same floor, reducing costly downtime.

> Once the problem is solved, Roombox restores power virtually immediately. It resets the protection system and restores the power supply to the circuit in question either locally or remotely via the supervision application.

-12€

# Save up to 12€\* per built m<sup>2</sup>

## Reduce cabling by 30% to 60%

Roombox powers and controls each system (lighting, shutters, HVAC) individually. You can hook up several Roombox units to a single electrical circuit and to a single fieldbus per floor.

HVAC controllers and Roombox units are linked to each other and to the supervision system. This totally innovative configuration significantly reduces cabling, lowering both raw material and installation time.

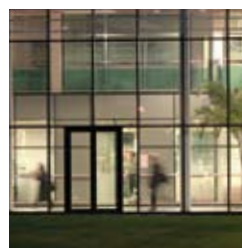
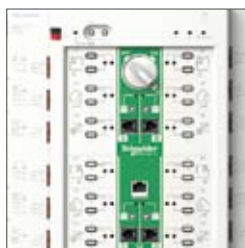
## Cut your installation and reconfiguration time by half

Because it offers increased flexibility and requires less cable, Roombox-based installations take as little as half the amount of time of traditional system architectures.

And when the time comes to redesign your office space, Roombox makes remodelling fast and easy.

# Save up to 30% on your energy bills

With Roombox, pre-programmable scenarios can help you manage energy consumption and reduce waste generated by unoccupied offices. Because each Roombox unit controls a small area, it manages resources according to actual needs to optimize users' comfort while reducing their energy footprint.



\* Calculations based on a study conducted in France comparing a traditional installation and a remote installation using Roombox.





Using energy only when you need to is just plain common sense. And yet the lights are left on even when there's nobody in the office. I'd like to find a way to eliminate that kind of waste.



# A **100% innovative** solution for environmentally-friendly workspaces



There are several ways to improve the energy efficiency of office buildings:

- > By tracking and analyzing the energy used in small areas to pinpoint actual user habits and needs and generate overconsumption warnings
- > By installing sensors to better understand the environment and by sharing information to better control multiple applications
- > By implementing intelligent utility management & control systems that interact with each other

**Roombox offers a totally innovative way of increasing energy efficiency. Unlike other solutions on the market, Roombox meets the needs of office building investors, operators and occupants without compromise.**



## Control exactly where you need it... in other words, where users actually are

Roombox allows users to fine-tune lighting, HVAC and shutter control by communicating with sensors and detectors installed in strategic office areas like doorways, facade windows and interior windows. These sensors and detectors transmit information about the local environment to coordinate and optimize the operation of equipment.

## Accurate energy metering

By providing information about the building's actual energy consumption, both for targeted areas and for individual use (lighting, shutters, HVAC), Roombox identifies problems to help you quickly take measures to correct them. Roombox informs users if they are not operating equipment properly and identifies defective equipment for repair or replacement. In addition, users can adjust the pre-programmed scenarios to meet their changing needs. The data gathered is available via the supervision system.

## Respected occupants habits

Roombox can operate in manual, semi-automatic or automatic mode. Regardless of the mode selected, Roombox does not alter the day-to-day use of the workspace it controls. Users still use switches to turn lights on or off or to open or close shutters – they retain full control over the comfort of their environment.

Occupants can even remotely operate all equipment using a wireless pushbutton control for added ease of use.

## Add Roombox to your BMS for extra features

Roombox is easy to integrate into your Building Management System. You can use multiple-application scenarios to facilitate the implementation of energy-efficiency solutions that suit your environment.

Easy to use **pre-programmed scenarios**

**Roombox lets you program scenarios that reduce energy waste.**

For instance:

- > **Turning off lights and air conditioning** if a workspace is unoccupied for long periods
- > **Turning off lighting near windows** if natural light reaches a certain threshold
- > **Automatically turning off air conditioning or heating** if an open window is detected

**You can integrate Roombox into your BMS to implement advanced, multiple-application scenarios.**

For instance:

- > **In hot weather**, it could be more cost-efficient to lower shutters and turn lights on rather than overuse the air conditioning system





In today's economic climate, my business has to be able to respond – and reorganize – quickly. I want my workspace to reflect this. I need the flexibility to make changes quickly, easily and cost-effectively. If my maintenance department could handle everything, it would be even better.



# Offices that live the way you do



## The freedom to create the workspace you want

Has the time come to restructure your office space? Do your plans involve moving or adding partition walls? Roombox makes your life easier by keeping configuration and cabling changes to a minimum.

- > The power supply to your equipment remains unchanged.
- > With Roombox fast connectors, moving, adding and removing control systems is easy – just plug in and go!

> Wireless, batteryless control systems eliminate most of the cabling required by traditional solutions.

> The new configuration is just as quick as the initial installation.



# 25%

Time saved integrating Roombox into your BMS compared with traditional solutions



## The fast, cost-effective and risk-free way to reorganize your workspace

Because Roombox is so simple and secure, changing your installation is faster, does not require any additional materials and is cheaper than traditional solutions.

## Do you want to increase your energy efficiency? Now you can!

Because Roombox is so flexible, it is now easier than ever to increase your energy-efficiency rating from C to A (according to standard EN 15232). With Roombox, you can quickly add the equipment and sensors you need to further refine how you manage your environment. Because everything is connected directly to your Roombox unit, there is no need to modify the electrical switchboard at floor level. Like the rest of the equipment, RF-controlled pushbuttons are detected automatically.

# Roombox: your 4-in-1 solution

Roombox manages 3 types of equipment via 4 types of sensor

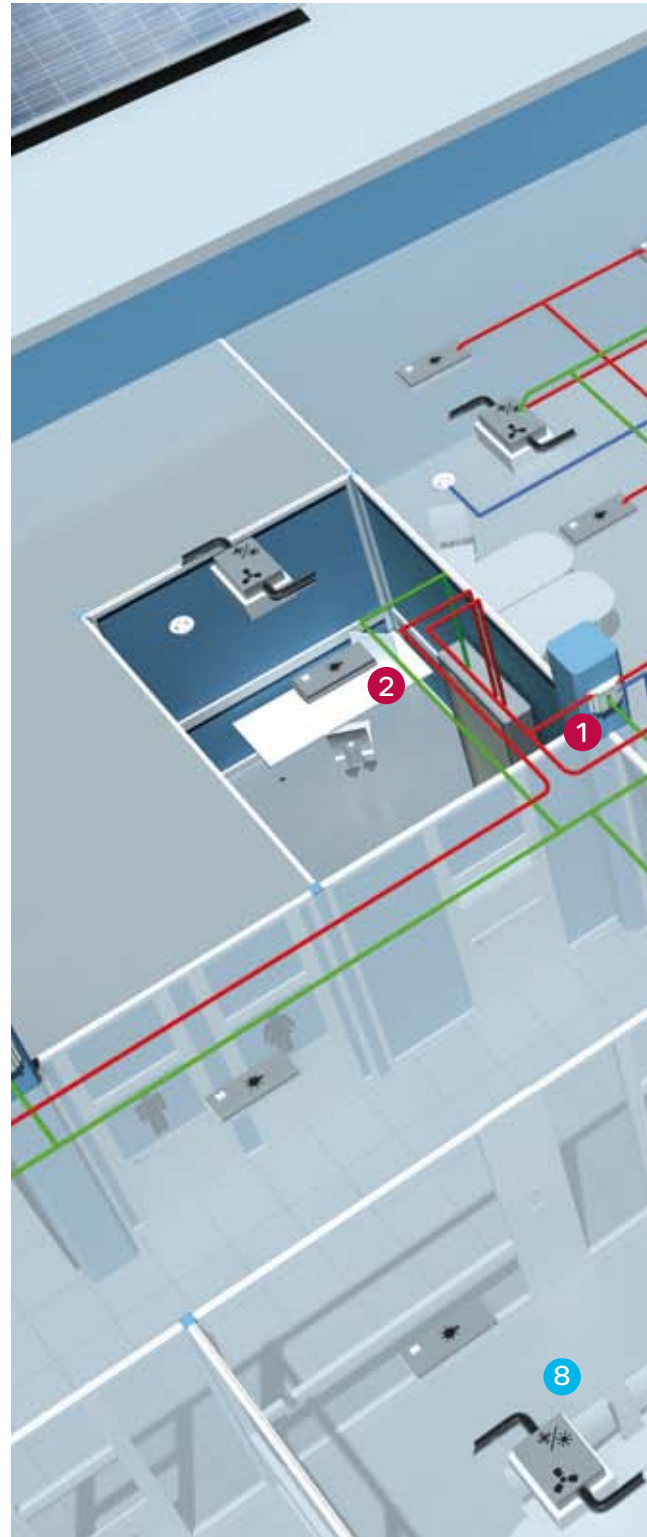
- 1 Roombox
- 2 BMS

## Sensors

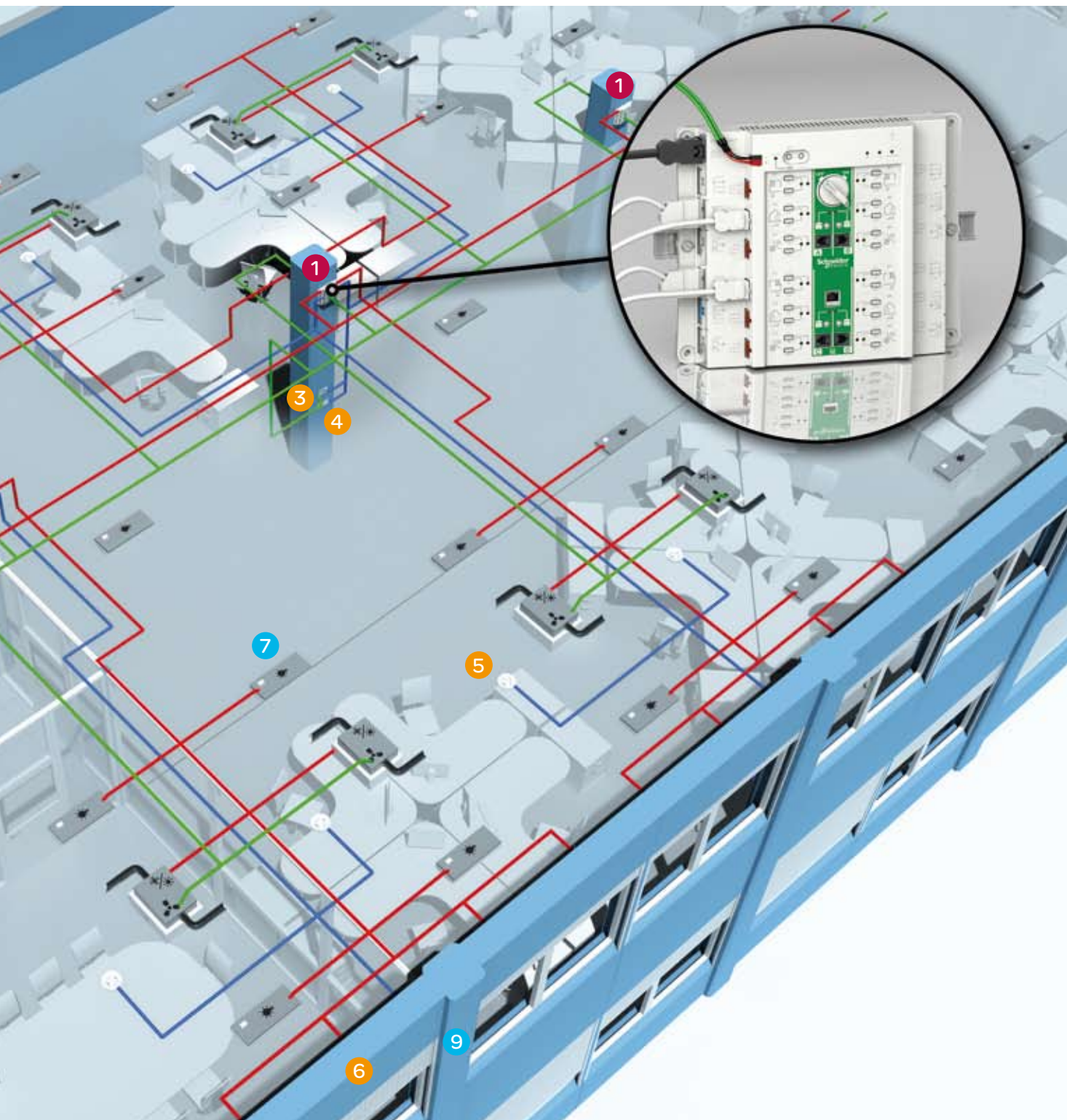
- 3 Pushbutton roller blind/shutter control
- 4 Pushbutton light control or batteryless and wireless pushbutton light control
- 5 Roombox multisensor motion detector and light sensor
- 6 Open/closed window sensor

## Equipments

- 7 Lighting
- 8 Heating, Ventilation and Air Conditioning (HVAC)
- 9 Blinds/roller shutters



A single electrical  
circuit and a single  
communication cable



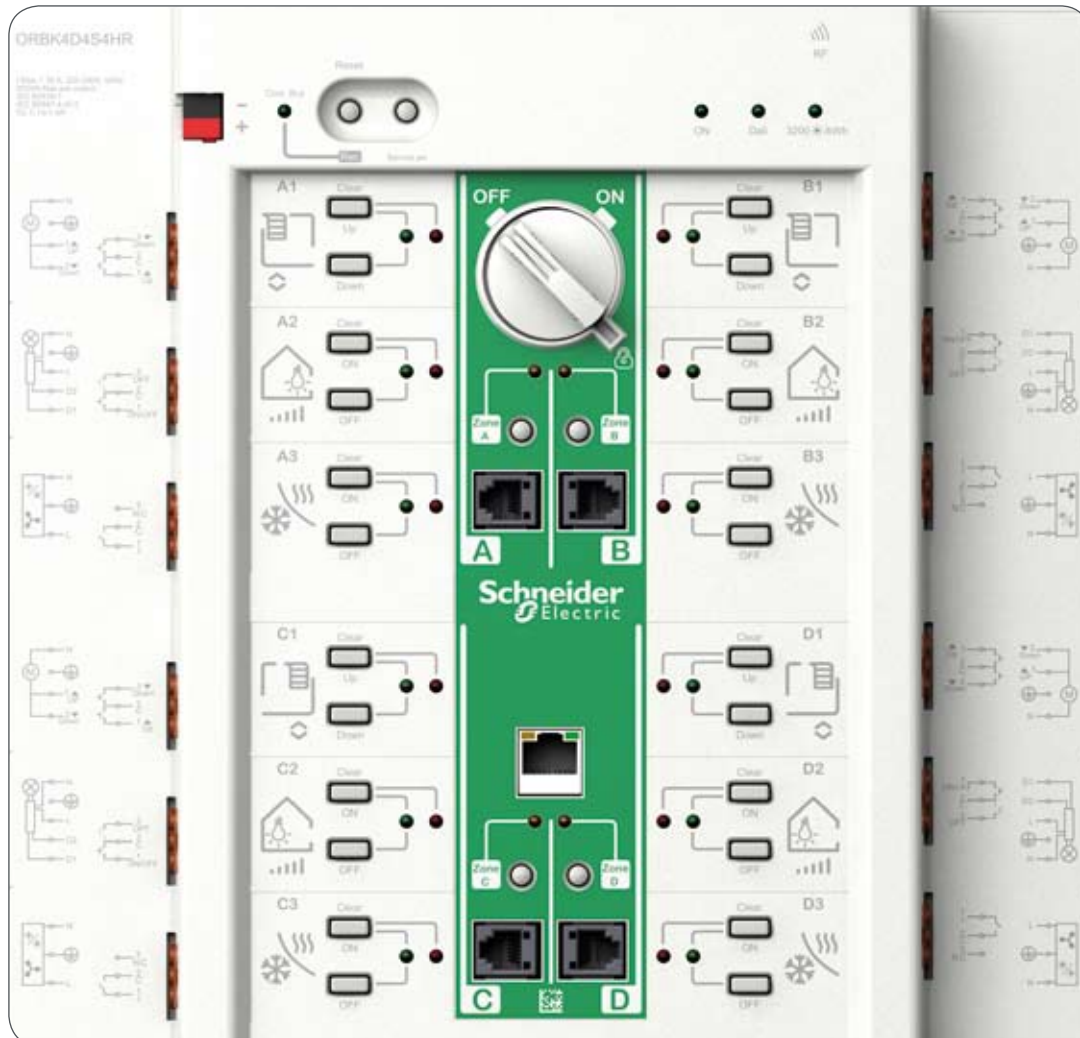
## Upstream






- > **A single electrical circuit** powers several Roombox units —
- > **A single communication cable** (LON or KNX bus) links HVAC controllers and Roombox units to each other —
- > **No additional cabling needed** to link Roombox to your supervision system

## Downstream from Roombox

- > Roombox powers and controls each system individually, which **reduces the amount of cabling needed and makes installation** drop ceilings easier —
- > You can even opt for RF (radio frequency) instead of cabling downline from the Roombox —

# Choose the **Roombox** that is right for you



-  Left-hand side shutter output
-  Right-hand side shutter output
-  Window-side dimmable lighting output
-  Corridor-side dimmable lighting output
-  HVAC output

Does your building have:

- > BMS built on LON or KNX?
- > Simple on/off or dimmer light switches?
- > Roller shutters/blinds?
- > RF controls?

Your answers to these simple questions will determine which of the 18 models in the Roombox range is right for you.

# 18

Choose from 18 different Roombox models:

- > 10 standard configurations for LON networks
- > 8 standard configurations for KNX networks
- > All models are available with or without RF controls



## One Roombox for every 50m<sup>2</sup>

Roombox powers and controls lighting, HVAC and shutters for workspaces the size of about four individual offices, or the equivalent open-plan office space.

### Plug in and go!

Roombox comes preconfigured with a simple scenario implemented automatically upon installation. The preconfigured scenario optimizes energy consumption for a 50 m<sup>2</sup> workspace.

#### Some of the preprogrammed functions include:

- > **Turning off lights** if the workspace is unoccupied for more than 15 minutes
- > **Automatically adjusting lighting intensity** near windows if natural light exceeds a predetermined threshold
- > **Regulating the intensity of lighting** to maintain 350 lux at all times of day and in all seasons
- > **Automatically turning off air conditioning** if an open window is detected

### Has your workspace changed? Change your scenario!

The Roombox standard configuration system enables you to refine your scenario by:

- > **Changing the response time for automatic shutoff** when an office space or conference room is unoccupied
- > **Adjusting lighting scenarios** depending on ambient light and other factors

#### You can program other advanced scenarios using your BMS:

- > **Timers**  
Shutoff of all lighting and HVAC at a given time, for example 7 pm

#### > **Change temperature settings:**

Increase air conditioning trigger from one temperature to another, for example from 23°C to 25°C

#### > **Multiple-application scenarios:**

If outside temperatures exceed 30°C, Roombox can implement the most energy-efficient scenario to avoid overuse of air conditioning; in other words, close the shutters and turn on the lights





Reduce our customers' energy consumption? Why not! But only if we save, too! Often, our customers' savings mean extra costs and hassle for us: additional cables to install and unclear accountability when a problem occurs. If only there was a control system that could do it all!



# Saving your energy from design to operation

Roombox delivers your customers the added value they are seeking while making things easier for professionals at all stages of the building life cycle, from design to operation and maintenance.



## Fully adaptable

Roombox controls workspaces of around 50 m<sup>2</sup>, making it suitable for a broad array of setups, from individual offices with various comfort settings to fully equipped conference rooms or simpler open-plan workspaces.

## Simpler, more compact equipment

Roombox offers a unique design that reduces electrical and communication cabling needs by 30% to 60%, thus limiting the number and size of cabling trays. With fewer outputs, the size of the electrical switchboard can be reduced leaving more floor space for other uses.

## Fast, reliable connectors

Because fast connectors have replaced the traditional screw-in connectors, it is possible to set up Roombox in record time without compromising safety.

## Plug-and-play connectivity for easy installation

After hooking up cables to the Roombox unit, to the equipment and to the control systems, all you need to do is turn on the power supply to the Roombox and the system works.

## Easy-to-program scenarios

The basic configuration automatically associates the control systems with the equipment they control. It optimizes energy consumption for workspaces of around 50 m<sup>2</sup>.

Of course, you can also program alternative scenarios. You are free to adjust certain settings at any time. Whether you want to change trigger temperatures or shutoff times for unoccupied workspaces, the system is fully configurable. You can implement changes using standard configuration software like ETS, LONmaker, NL220 or TAC Menta.



# - 100 kg

The amount of copper wire saved with Roombox (340 kg) compared with a traditional protection and control system (440 kg) for a building of around 2,000 m<sup>2</sup>

### Real-time testing and delivery

Once installation is complete, a double test button ensures that each system controls the equipment associated with it, eliminating the need to call in a system integrator to check the electrical cabling.

### Easy, risk-free maintenance

The power supply automatically cuts off before work begins on the system.

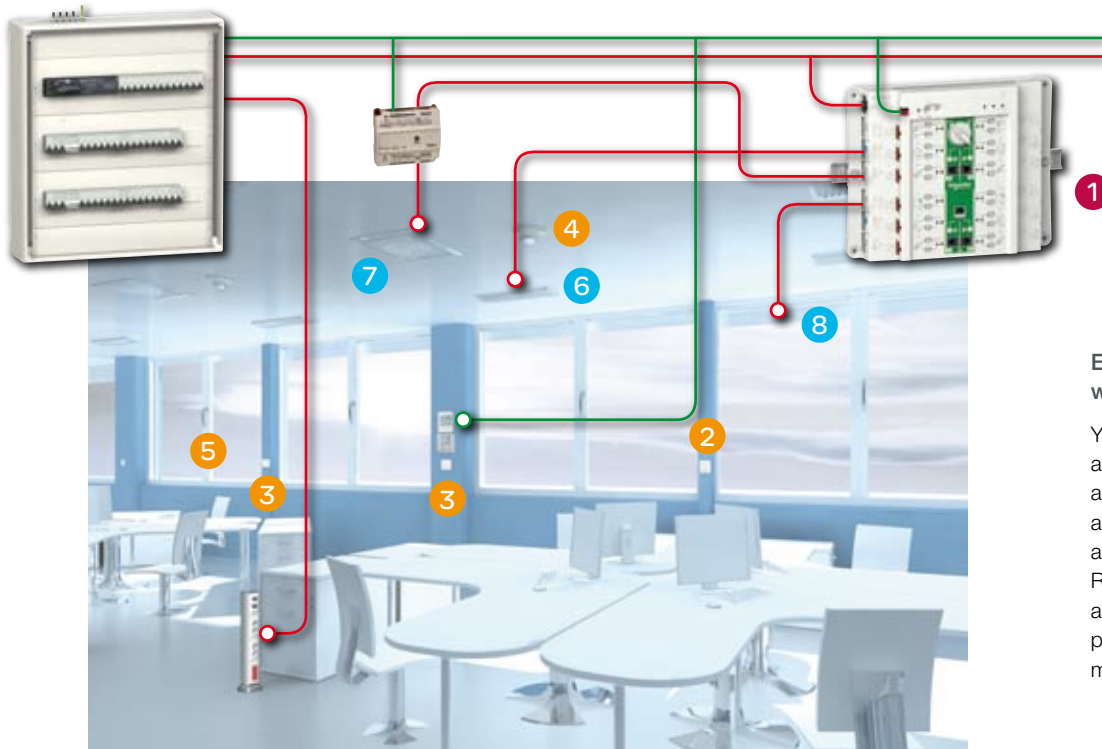
### Increased transparency for better teamwork

By offering Roombox with local control, installers add an attractive new service to their traditional electrical distribution lineup. They also increase added value for their customers.

A system integrator is nonetheless required to integrate Roombox into the BMS.

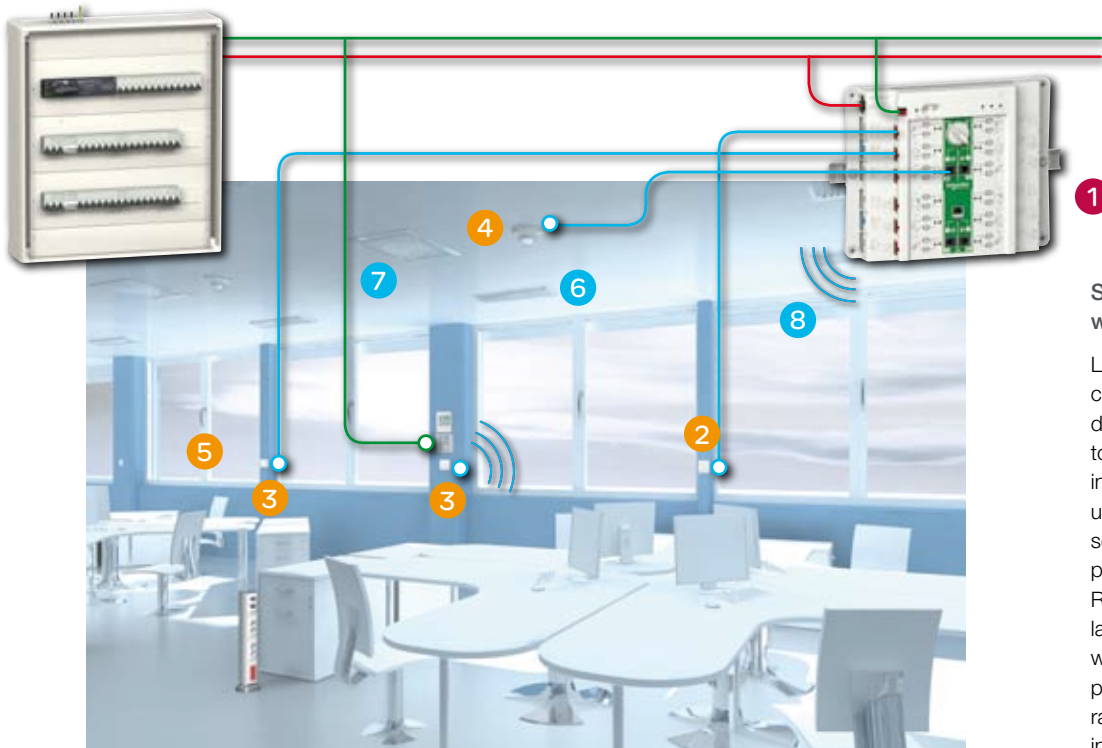
It is easier to determine responsibility in the event of a fault, and problems are resolved more quickly.

# Less cable for more simplicity



## Electrical distribution with Roombox

Your customer wants automation capability to run applications like heating, air-conditioning, lighting and shutters/roller blinds. Roombox works as an advanced module providing power, protection and metering.



## Sensors and detectors with Roombox

Let go of the complicated communicating sensors and detectors. It is now possible to use standard equipment in a simple and fast manner using the Roombox. All sensors and detectors are plugged directly onto the Roombox allowing for fast layout change. The use of wireless and batteryless pushbutton increases the rapidity and simplicity of their installation.

1 Roombox

- Sensors**
- 2 Pushbutton roller blind/shutter control
  - 3 Pushbutton light control or batteryless and wireless pushbutton light control
  - 4 Roombox multisensor motion detector and light sensor
  - 5 Open/closed window sensor

- Equipments**
- 6 Lighting
  - 7 Heating, Ventilation and Air Conditioning (HVAC)
  - 8 Blinds/roller shutters

# Selection guide

Cial Reference LON	Cial Reference KNX	Lighting On/Off Control	Lighting DALI Diming	Shutter Up/Down	HVAC Power Supply
<b>ORBL8L0S4HW</b> <b>ORBL8L0S4HR*</b> *Zigbee radio	<b>ORBK8L0S4HW</b> <b>ORBK8L0S4HR*</b> *Zigbee radio	<b>8</b> 4 zones x 2 light			<b>4</b> 4 zones x 1 PS
<b>ORBL8D0S4HW</b> <b>ORBL8D0S4HR*</b> *Zigbee radio	<b>ORBK8D0S4HW</b> <b>ORBK8D0S4HR*</b> *Zigbee radio		<b>8</b> 4 zones x 2 light		<b>4</b> 4 zones x 1 PS
<b>ORBL6L4S2HW</b> <b>ORBL6L4S2HR*</b> *Zigbee radio		<b>6</b> 2 zones x 2 light 2 zones x 1 light		<b>4</b> 4 zones x 1 SHT	<b>2</b> 2 zones x 1 HVAC
<b>ORBL6D4S2HW</b> <b>ORBL6D4S2HR*</b> *Zigbee radio			<b>6</b> 2 zones x 2 light 2 zones x 1 light	<b>4</b> 4 zones x 1 SHT	<b>2</b> 2 zones x 1 HVAC
<b>ORBL9D0S3HW</b> <b>ORBL9D0S3HR*</b> *Zigbee radio			<b>9</b> 3 zones x 3 light		<b>3</b> 3 zones x 1 HVAC
	<b>ORBK4L4S4HW</b> <b>ORBK4L4S4HR*</b> *Zigbee radio	<b>4</b> 4 zones x 1 light		<b>4</b> 4 zones x 1 SHT	<b>4</b> 4 zones x 1 PS
	<b>ORBK4D4S4HW</b> <b>ORBK4D4S4HR*</b> *Zigbee radio		<b>4</b> 4 zones x 1 light	<b>4</b> 4 zones x 1 SHT	<b>4</b> 4 zones x 1 PS



## Roombox, your all-in-one solution:

- > Reduces capital expenditure
- > Speeds up installation time
- > Provides total flexibility
- > Optimises occupant comfort
- > Saves energy

 Make the most of your energy

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