# MASTERING SMART LIVING

## BUILDING AUTOMATION SYSTEM


RENSON®

# CONTENTS



*Our passion lies in creating innovative products and complete solutions that turn every home into a healthy and comfortable place to live. Our commitment to 'creating healthy spaces' is the foundation for everything we do.*

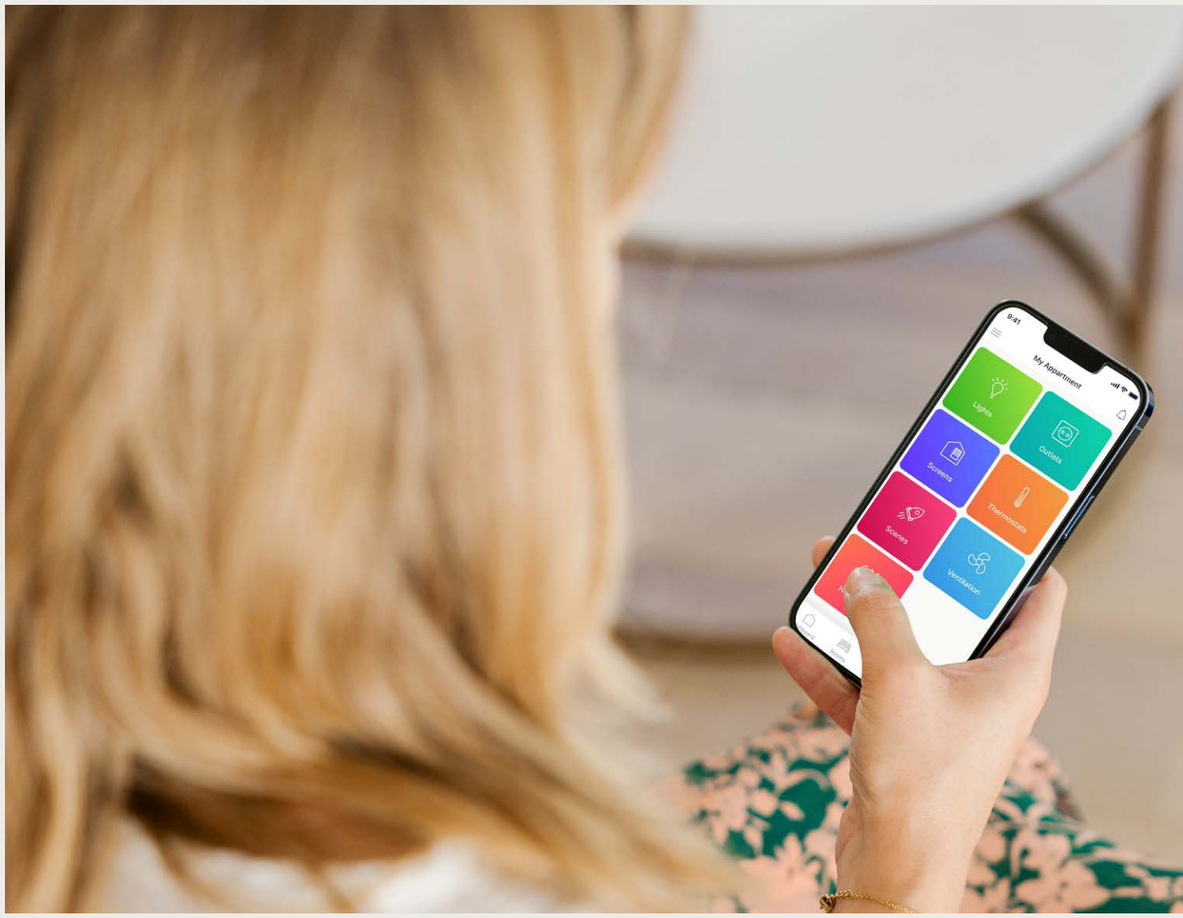
*Paul Renson*

# INTRO

Sustainable living, in many areas, is more important than ever. This means saving energy, using materials consciously, and thus investing in the future.

Renson, as a high-tech manufacturer of smart building solutions, plays an important role in this. Renson offers with Smart Living a hardware and software platform for the automation of homes, buildings and even neighbourhoods. The result is increased comfort and security for residents and owners.

In addition, users can analyse and optimise their consumption of electricity, water, heat and gas at any time. This means Renson also boosts energy efficiency at the home, building and district level.




# RENSON SMART LIVING

Smart Living creates significant added value for a home. It adds a lot of comfort for the resident. It can be used to control the lighting, heating, ventilation, air conditioning, sun protection and other technologies in the home using a smartphone, tablet or via a laptop. Instead of a proliferation of apps or control buttons in the home, the central platform bundles all these controls in 1 app, which controls the technology from any location.

In order to prevent the home looking deserted, even when no one is home, Smart Living can also increase security. The roller shutters close automatically in the evening and open again in the morning.

By mapping energy consumption, Smart Living also allows the resident to save energy without sacrificing comfort. The intelligent home automation system can optimise the consumption of produced (solar) energy, thus saving costs on the energy bill.

# APPLICATIONS

## TAILOR-MADE SOLUTION FOR EVERY BUILDING AND EVERY RESIDENT

Smart Living is a solution for individual homes or apartment buildings, with a collective heat source for different apartments. A Smart Living solution consists of at least a Brain/Brain+, as the central control of the installation, and is expandable to optimally meet the wishes and needs of the home and/or resident.


### Control

The lighting, outlets, sun protection or roller shutters can be controlled via the app or via push buttons. Possibility to configure a push button with multiple functions, such as turning off all the lights in the entire home with a long press. The Google Assistant integration also makes voice control for the heating or lighting possible.

### Energy

By connecting the digital meter to a Brain/ Brain+, the resident can stay on top of the energy consumption. In addition, it is possible to add more detailed energy measurements for detailed monitoring of the appliances or circuits that are consuming a lot.  The real-time overview can display current consumption at any time.

### Ventilation

The Renson Healthbox and Flux can be controlled via the app. Boosting ventilation when necessary is easy and quick.

### Heating/cooling zones

One or more heating/cooling zones can be added in the thermostat. These zones can be controlled individually so the temperature in the different rooms can be set separately.

**Furthermore, Smart Living also makes it possible to:**

Set up scenes that perform different actions with 1 command, for example a movie scene that dims the lighting to a certain level and lowers the roller shutters to create an ideal movie setting.

Set up automations that perform actions at a specific time or under the influence of another trigger, such as a sensor value that exceeds a set value.

## REMOTE CONTROL

It is possible to control the home remotely via the Renson One app on a smartphone or tablet, or via the Renson One portal on the laptop. Multiple users can access the app.

The app's home screen contains a dashboard onto which the most commonly used controls can be added. There is also an overview per room and per category (lights, screens, etc.).

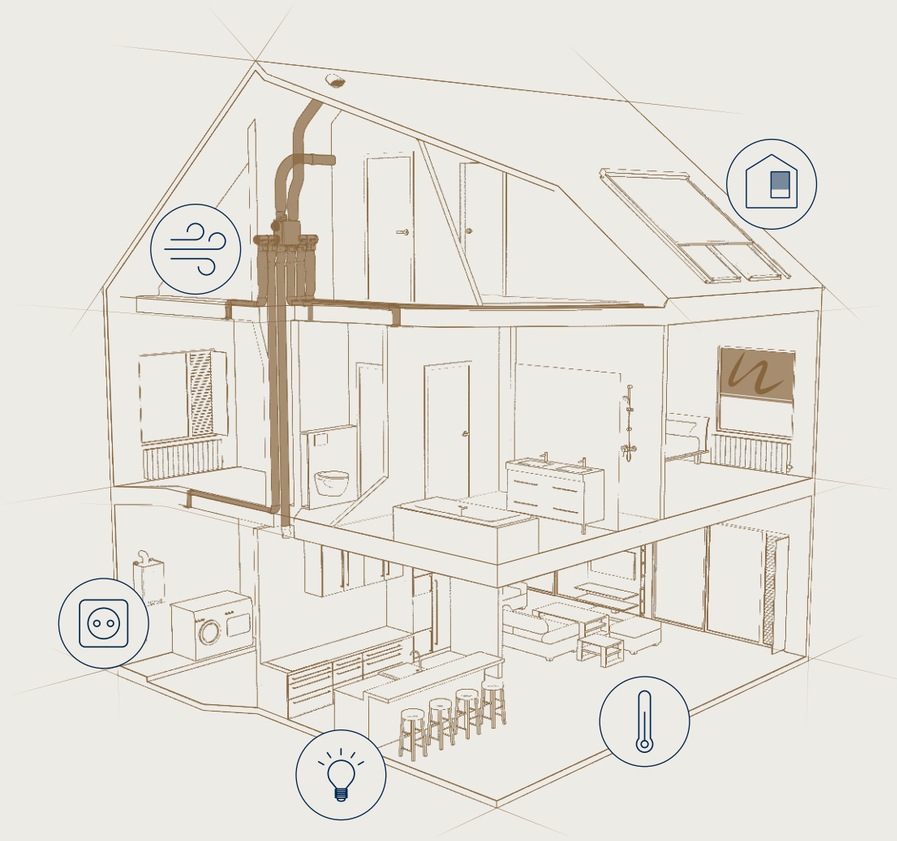
## ENERGY: TO MEASURE IS TO KNOW.

It is possible to monitor energy and sensor values in the app and web portal. Depending on the available energy measurements or sensors (e.g. energy measurement via P1 port of the digital meter and/or detailed energy measurement of the circuits/appliances, temperature sensors of the thermostat zones), consumption can be monitored per day, week or month. In addition, there is a real-time overview of all appliances that are currently consuming energy.


## SMART LIVING IN AN INDIVIDUAL HOME OR IN AN APARTMENT

The example below represents an individual home with a thermostat zone, light circuits, screens, and switched outlets. The ventilation can also linked to the Smart Living installation so it can be easily operated via the same interface.

The technical installation of the Smart Living solution then contains a Brain+ module, Relay module, and depending on the number of push button locations and sensors, a number of micro CANs. If there are dimmed lights, a 0/1-10 V Control module can also be added. If detailed energy measurements are required, an Energy module can also be added in the fuse box.

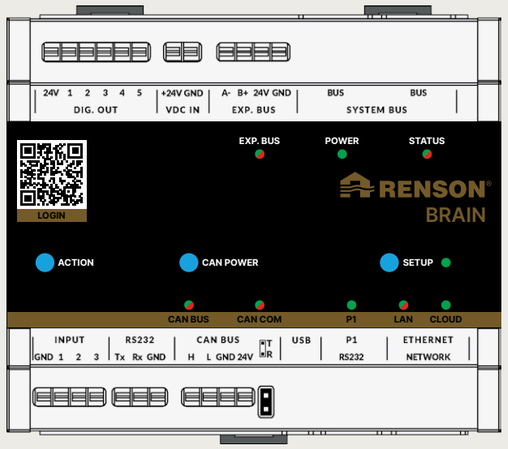


# BRAIN MODULE

## The Brain module is the foundation of a Smart Living installation with extensive expansion possibilities.

**The connection possibilities on the Brain module:**

3 potential-free inputs, 5 digital outputs (24 VDC), Built-in CAN Control module for connecting micro CAN modules (push buttons and sensors), P1 port for connection to the digital meter (reading electricity and gas consumption), RS232 connection for connecting a DALI bus, Additional RS485 connection for third-party integrations, USB connection for third-party integrations, LAN connection, System Bus (connection to other Smart Living modules to expand inputs, outputs, energy measurements, etc.).



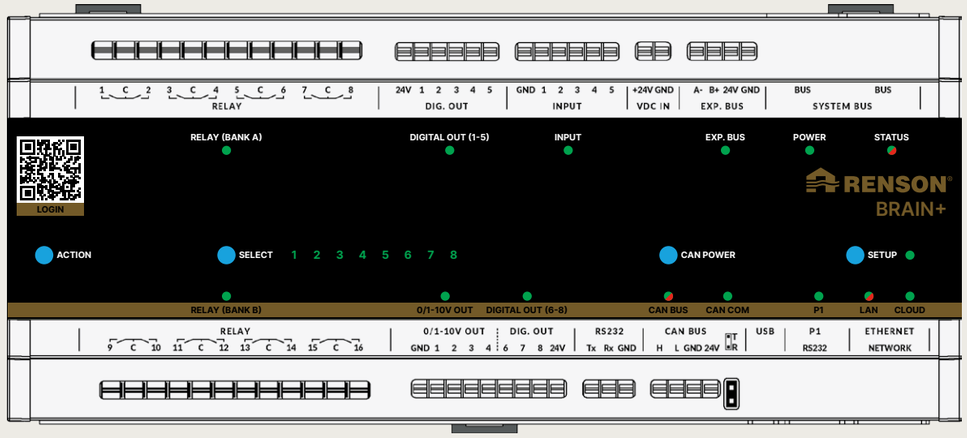

| Connection possibilities | Brain module |
|---|---|
| **Potential-free inputs** | 3 |
| **Digital outputs (24 VDC)** | 5 |
| **CAN Control module** | Built-in (for connecting micro CAN modules; push buttons and sensors) |
| **Digital meter connection** | P1 port (reading electricity and gas consumption) |
| **RS232 connection** | ✓ (connect DALI bus) |
| **Integrations with third parties** | Additional RS485 connection & USB connection |
| **LAN connection** | ✓ |
| **System Bus** | ✓ (connection to other Smart Living modules for expansion) |

# BRAIN MODULE

## The Brain+ module is the foundation of a Smart Living installation with very extensive connection possibilities and expansion possibilities.

**The connection possibilities to the Brain+ module:**

16 built-in relays, 5 potential-free inputs, 4 0/1-10 V outputs, 8 digital outputs,
CAN bus connection for connecting a CAN network with micro CAN modules (push buttons and sensors), P1 port for connection to the digital meter (reading electricity and gas consumption),
RS232 connection for connecting a DALI bus, Additional RS485 connection for third party integrations, USB connection for third party integrations, LAN connection, System Bus (connection with other Smart Living modules to expand inputs, outputs, energy measurements, etc.).



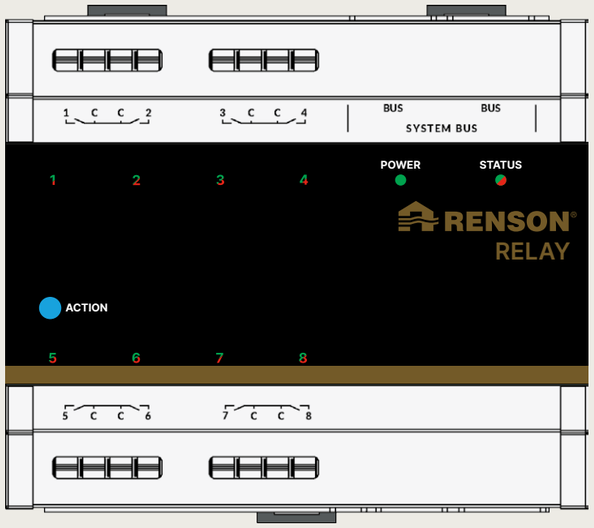

| Connection possibilities | Brain module* |
|---|---|
| **Built-in relay** | 16 |
| **Potential-free inputs** | 5 |
| **0/1-10 V outputs** | 4 |
| **Digital outputs** | 8 |
| **CAN Control module** | Built-in (for connecting micro CAN modules; push buttons and sensors) |
| **Digital meter connection** | P1 port (reading electricity and gas consumption) |
| **RS232 connection** | ✓ (connect DALI bus) |
| **Integrations with third parties** | Additional RS485 connection & USB connection |
| **LAN connection** | ✓ |
| **System Bus** | ✓ (connection to other Smart Living modules for expansion) |

* Only possible in Belgium

# RELAY MODULE

**The Relay module has 8 internal bi-stable relays whose purpose is to switch 8 different loads/outputs.**

The Relay module supports normal loads (such as different types of lighting) as well as motors for screens, curtains and roller shutters.



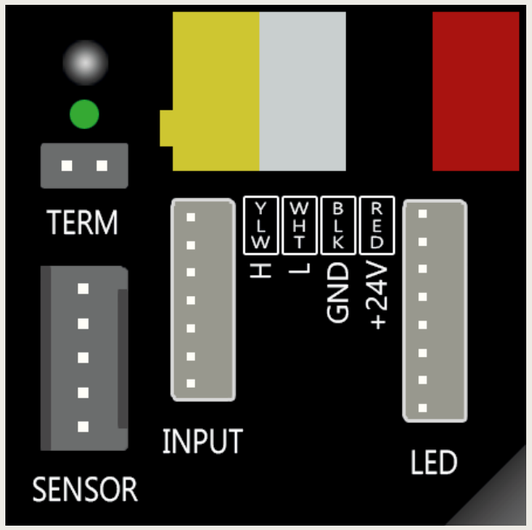

# MICRO CAN MODULE

**The micro CAN module is a small module placed behind the switch in the built-in pot.**

The aim of the micro CAN module is to collect the various room inputs (both push buttons and various sensors) and send them to the Brain or Brain+ module.

A micro CAN module has 6 inputs (for push buttons or motion sensors) and 6 outputs (for controlling feedback LEDs).

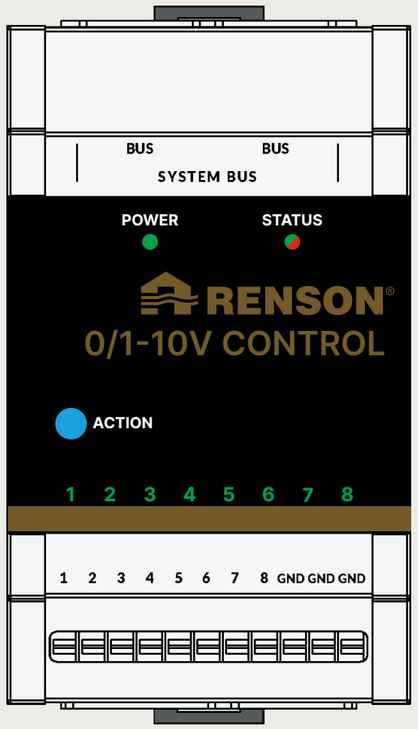
There is also the possibility to connect a temperature and humidity sensor. The micro CAN module is supplied with the associated cable bundle for connecting inputs (push buttons, motion sensors, etc.) and feedback LEDs.



# 0/1-10V CONTROL MODULE

**The 0/1-10 V Control module has 8 analogue outputs (0/1-10 VDC) for the control of 8 analogue devices.**

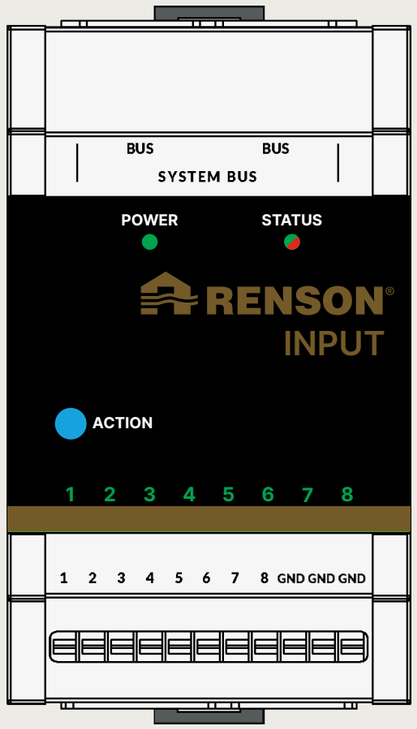
The 0/1-10 V Control supports both voltage control and current control with the limits stated in the datasheet.




# INPUT MODULE

**The Input module has 8 inputs to read potential-free signals in a star topology.**

Examples of possible inputs that can be connected are push buttons, switches, motion sensors, door and window contacts, alarm contacts, etc.

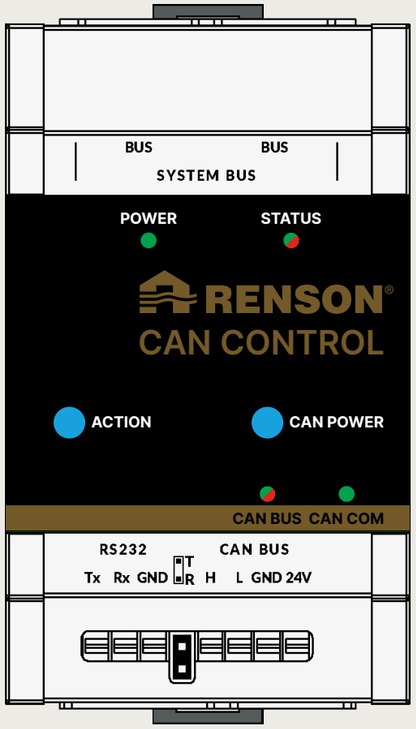


# CAN CONTROL MODULE

**The CAN Control module is an expansion module that offers the possibility of an extra CAN bus* or to add an extra DALI bus.**

A CAN bus is used to connect micro CAN modules to an installation

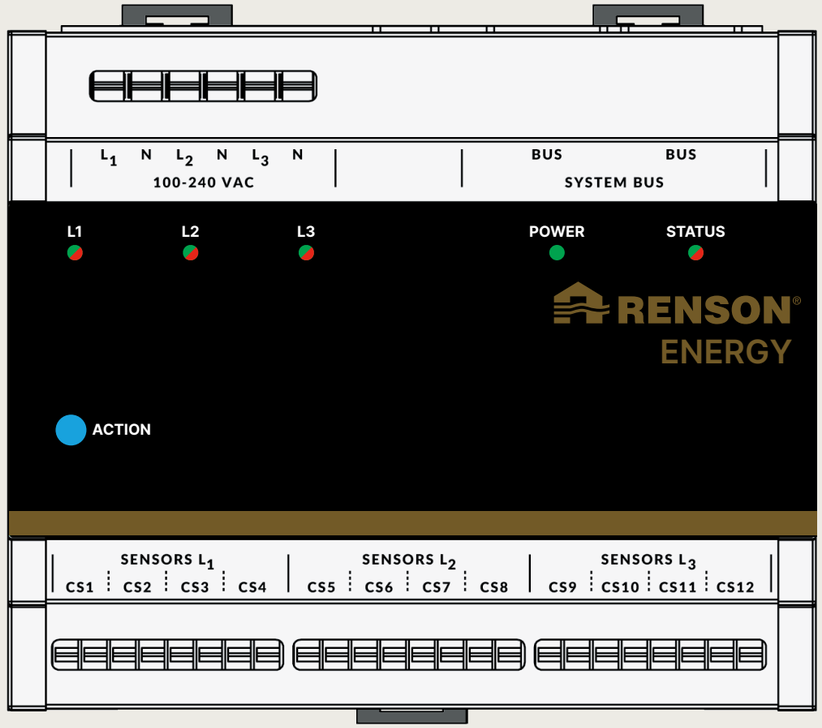
*The Brain and Brain+ module both have 1 built-in CAN bus. For larger buildings and/or multiple floors it is advisable to divide the CAN bus into different zones. The CAN Control module will control an extra zone.




# ENERGY MODULE

**The Energy module allows up to 12 electricity circuits (230 VAC) to be measured in detail.**

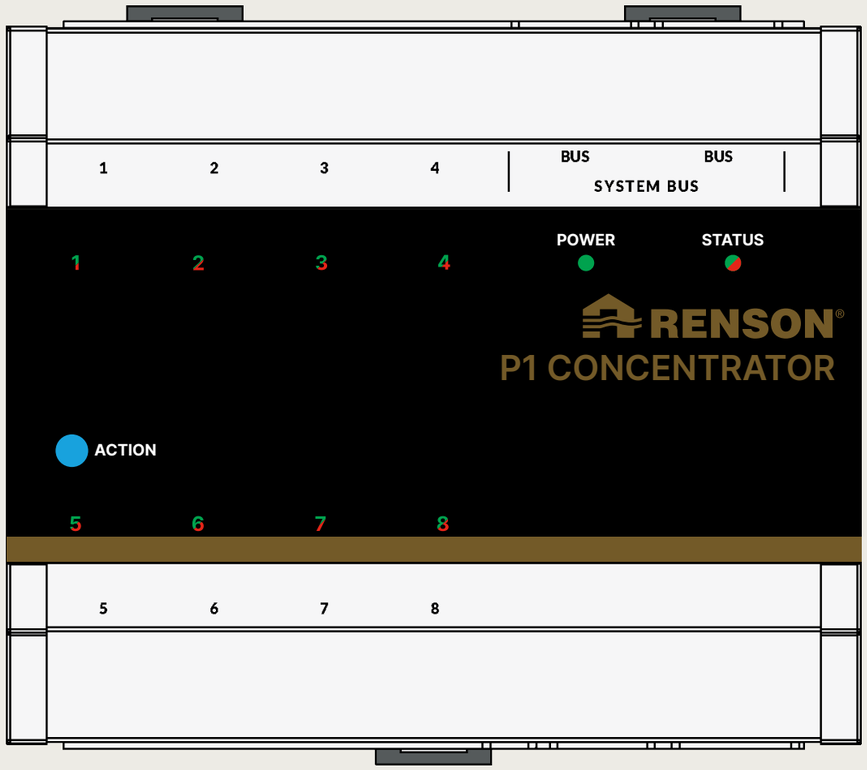
For consumers (e.g. electrical appliances) as well as sources (e.g. solar panels). This module makes it possible to measure and map all currents in a 1-phase or 3-phase electrical installation (100-240 VAC).



# P1 CONCENTRATOR MODULE

**The P1 Concentrator module allows you to connect and read the P1 port of 8 digital meters.**

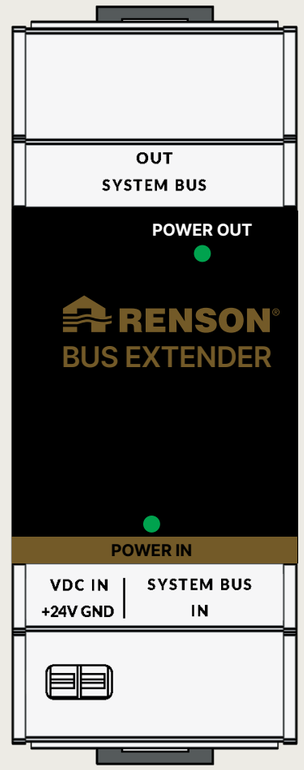
This module is specific to apartment buildings where the digital meters are central, and not for the Brain/Brain+ of the individual installation. With the P1 Concentrator module, 8 digital meters can be connected so they can be read out, and consumption made transparent.




# BUS EXTENDER MODULE

**In larger installations there may be multiple electrical cabinets in which Smart Living modules are installed.**

The Bus Extender is installed in a fuse box without a Brain or Brain+ module. This allows the bus to be supplied locally with an additional 24 VDC power supply and to provide the same signals as the fuse box where a Brain or Brain+ module is installed.



| | SKU |
|---|---|
| Brain module | 33108 |
| Brain+ module | 24752 |
| Brain<br>Brain+<br>Power supply | 27489 |
| Relay module | 13752 |
| Micro CAN module | 24753 |
| Temperature and humidity sensor | 26480 |
| 0/1-10V Controle module | 24833 |
| Input module | 25298 |
| CAN Control module | 24834 |
| Energy module | 24835 |
| Current Sensor (12.5A) | 27483 |
| Current Sensor (25A) | 27182 |
| Current Sensor (50A) | 27484 |
| Current Sensor (100A) | 27482 |
| P1 Concentrator module | 27091 |
| Bus Extender module | 25297 |

**Want to find out more? Scan the code for details and training.**

Additional documentation

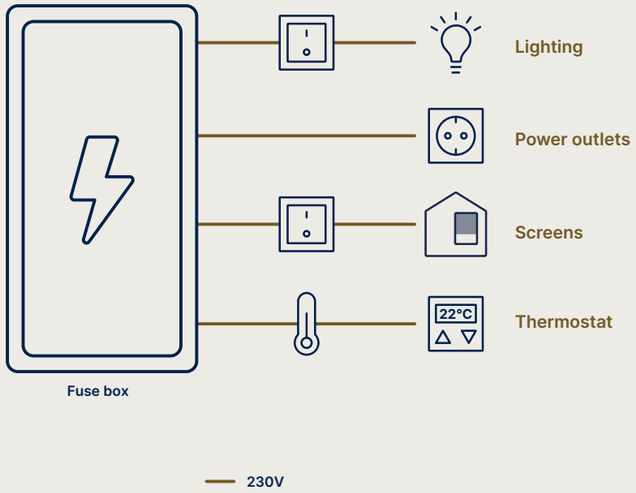
Training module

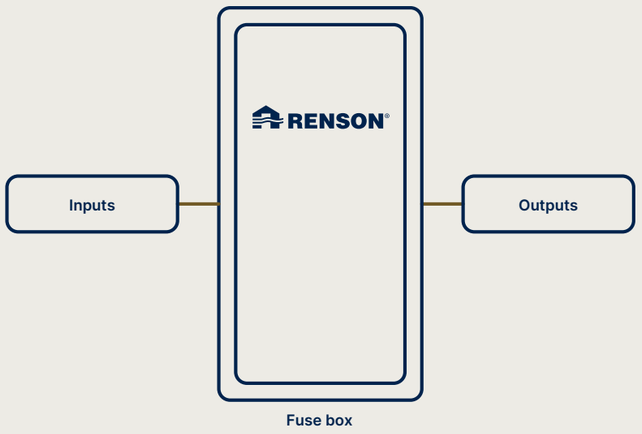


# DIFFERENCE WITH A CLASSIC INSTALLATION

## IN A CLASSIC INSTALLATION

- There is a direct connection between the switches and consumers.
- There are switches that interrupt the electrical power supply.
- The function of the switches can't be changed after installation.
- A physical thermostat is required to adjust the temperature.

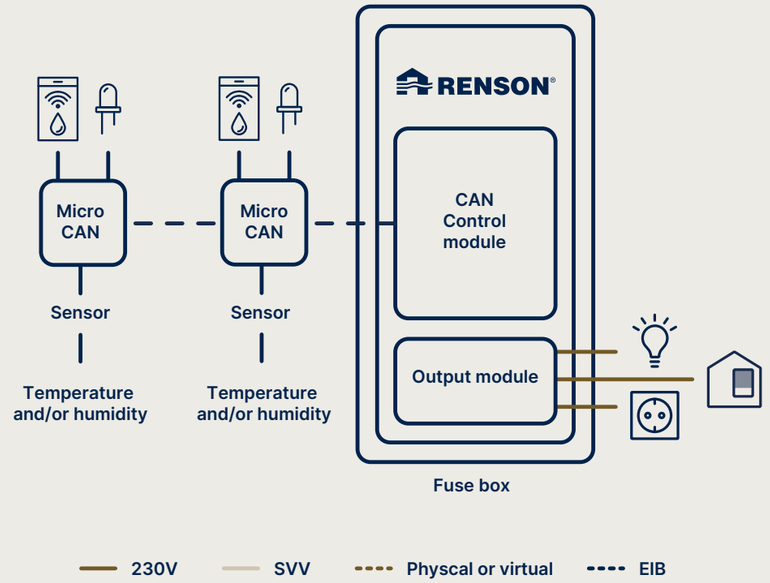



## WITH A RENSON BUILDING MANAGEMENT SYSTEM

- There is no direct connection between the push buttons and consumers
- There are modules in the fuse box that ensure your push buttons and consumers communicate
- The function of the push buttons can be set after installation.
- There is no a physical thermostat required to adjust the temperature.
- On-site and remote control is possible via laptop, smartphone and tablet

# EXAMPLE OF A RENSON SMART LIVING SYSTEM




## WITH A BUS WIRED INSTALLATION

- There is an output module in the fuse box to control lighting, screens and sockets
- There is a micro CAN module in the room to which a maximum of 6 push buttons can be connected, with the possibility of linking LED feedback and one temperature and/or humidity sensor
- There are far fewer cables, making installation easier


# IMPACT OF SMART LIVING ON THE EPB FILE*

Energy efficiency is not only good for the environment, but also increases the value of a project and makes it in Belgium possible to receive more subsidies.

### Smart lighting

A well-designed lighting installation and the intelligent use of control systems, possibly via Smart Living, can lead to a drop of up to 1 E-level for residential buildings.  For non-residential buildings, this can even mean a drop of up to 20 E-level points.

### Ideal indoor climate

The four technologies (heating, cooling, ventilation and sun protection) responsible for the indoor climate can be set and optimised with Smart Living.  Depending on the efficiency per technology, this can mean a drop of 2-12 E-level points.

### Smart ventilation

Adding a smart ventilation system that automatically responds to odour, moisture or CO2 will ensure every resident can enjoy optimal air quality, and it will result in a drop of 2-10 E-level points at any time of the day.

### Multiple heating/cooling zones

Different heating zones means only occupied rooms will be heated or cooled. This allows an E-level drop up to a maximum of 1 point per zone.

### Automatically controlled sun protection

The automatically controlled Renson sun protection is an energy-efficient solution to keep a home naturally cool in the summer and warm in the winter.  This contributes to living comfort. Sun protection on the outer side of the window that is operated fully automatically can mean a drop of 1-6 E-level points.

* Only applicable in Belgium

## A SMART HOME IS SOLD OR RENTED FASTER

According to a survey by iVOX, the need for comfort has increased significantly since 2020. After the corona crisis, more than half of respondents state they want more comfort in their home. Both the younger and older age groups are looking for building blocks for a more comfortable lifestyle.

In addition, since higher energy bills have become the norm in recent years, more attention is being paid to the consumption of a home. Smart Living provides an answer to these needs by enabling remote control, automatic control, and detailed energy measurements and monitoring.

**Will a home with Smart Living be sold faster?**

Various sources show that 80% of buyers state that they are more likely to choose a house where home automation or smart technologies are integrated. Moreover, 40% of real estate agents state that this type of house sells faster. Home automation is also increasingly becoming a differentiating factor in the rental market.  Not only is the rent for an apartment higher, the price will also be higher if it is sold.*

* Sources: Sarah K. Richardson, Arizona School of Real Estate Business; CNET & Coldwell Banker; One Smart Shelter; Fries Blancke, Real Estate Rockstar at Habitat; Dennis de Cock, System Integrator; Realty Times



# SMART METERING

We have developed Smart Metering to make life more comfortable and sustainable for everyone involved in a collective project, from client to resident. Smart Metering can provide insight into both the consumption and production of the various relevant technologies in the project. And this for individual units, as well as at a collective level.

Thanks to this solution, the costs and revenues of all the different technologies (inverters, electricity and gas meters, heat pumps, solar panels, etc.) can be correctly displayed, processed and settled.

**Project “De Nieuwe Dokken” in Ghent**

When creating the project “De nieuwe dokken” in Ghent, the focus was on the ideal interaction between a district and industry.  In this ambitious and innovative construction project, DuCoop built a heating network, water purification and other technology. Each individual apartment is smartly controlled thanks to Smart Living. In addition, at a collective level, each home is connected to the heating network and supplied by the residual heat from the neighbouring company Christeyns.

In the past, residual heat had to be actively cooled and was seen purely as an energy loss, it is now an energy source for the district. Ducoop is also responsible for the operation. To make this possible, the organisation uses the integrated data system of Smart Metering.

# RENSON ONE

Renson One brings together smart building automation, demand-driven ventilation, and sustainable heating/cooling in a complete concept tailored to your project. This ecosystem represents a future-proof solution for healthy living comfort. Integrated technology from one single manufacturer is cleverly and automatically controlled for a pleasant and optimal indoor climate. With the additional assets of complete convenience and low energy consumption.


## 1 SMART LIVING

The real secret of comfortable and energy-efficient living? That's by making sure all your sustainable tech works together as a team. Renson's 'Smart Living' building automation system connects your ventilation, heat pump, and much more. This provides automated control and a real-time overview of all factors with an impact on healthy and comfortable living, conveniently bundled into one app for you.

## 2 VENTILATION

Demand-driven ventilation is the key to a healthy and pleasant indoor climate, without having to worry about it as a resident. Both Renson's Healthbox 3.0 (C+) and Flux+ Flat (D+) ventilation units work purposefully, energy-efficiently, and fully automatically as the beating heart of a customised central ventilation system.

## 3 HEAT PUMPS

Heating (and cooling) is a major energy consumer. A heat pump lets you extract energy from the air to bring your indoor spaces to the right temperature all year round. It's an environmentally friendly, efficient, and pleasant alternative to fossil fuel appliances.

# WHY RENSON®?

At Renson, we believe high-quality products and innovative solutions contribute to an energy-efficient, comfortable and healthy life. There is a reason why our baseline is "Creating healthy spaces". And in doing so, we depart from several basic principles.


### MINIMALIST DESIGN

We aim high when it comes to design. Renson solutions discreetly fit into any project. Detailed finishing and seamless integration help achieve exactly that.

### THE POWER OF INNOVATION

Our hunger for innovation is what drives progress. We achieve impressive results together by developing and applying innovative technologies.

### ENDLESS CUSTOMISATION OPTIONS

For your home or workspace, rustic or contemporary. Configuring a solution tailored to each customer and building is quick and easy.

### SUSTAINABLE ENTREPRENEURSHIP

We cannot build a healthy living environment without tending to a healthy world. From our choice of materials to our production and logistics; we are building a sustainable business.

### ULTIMATE EASE OF USE AND MAINTENANCE

Our advanced engineering is geared towards ease of use and minimum maintenance. From configuration and ordering to quick and trouble-free installation. With our digital platform, RIO, as its beating heart.

RENSON®

All photos shown are for illustration purposes only and merely serve as an example of a practical situation. The actual product may vary due to adjustments to the product. Renson® reserves the right to make technical modifications to the products shown. The latest brochures can be downloaded from **www.renson.net.**

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