

ERMS

**(ENERGY MANAGEMENT SYSTEM)
+
(GUEST ROOM MANAGEMENT SYSTEM)**

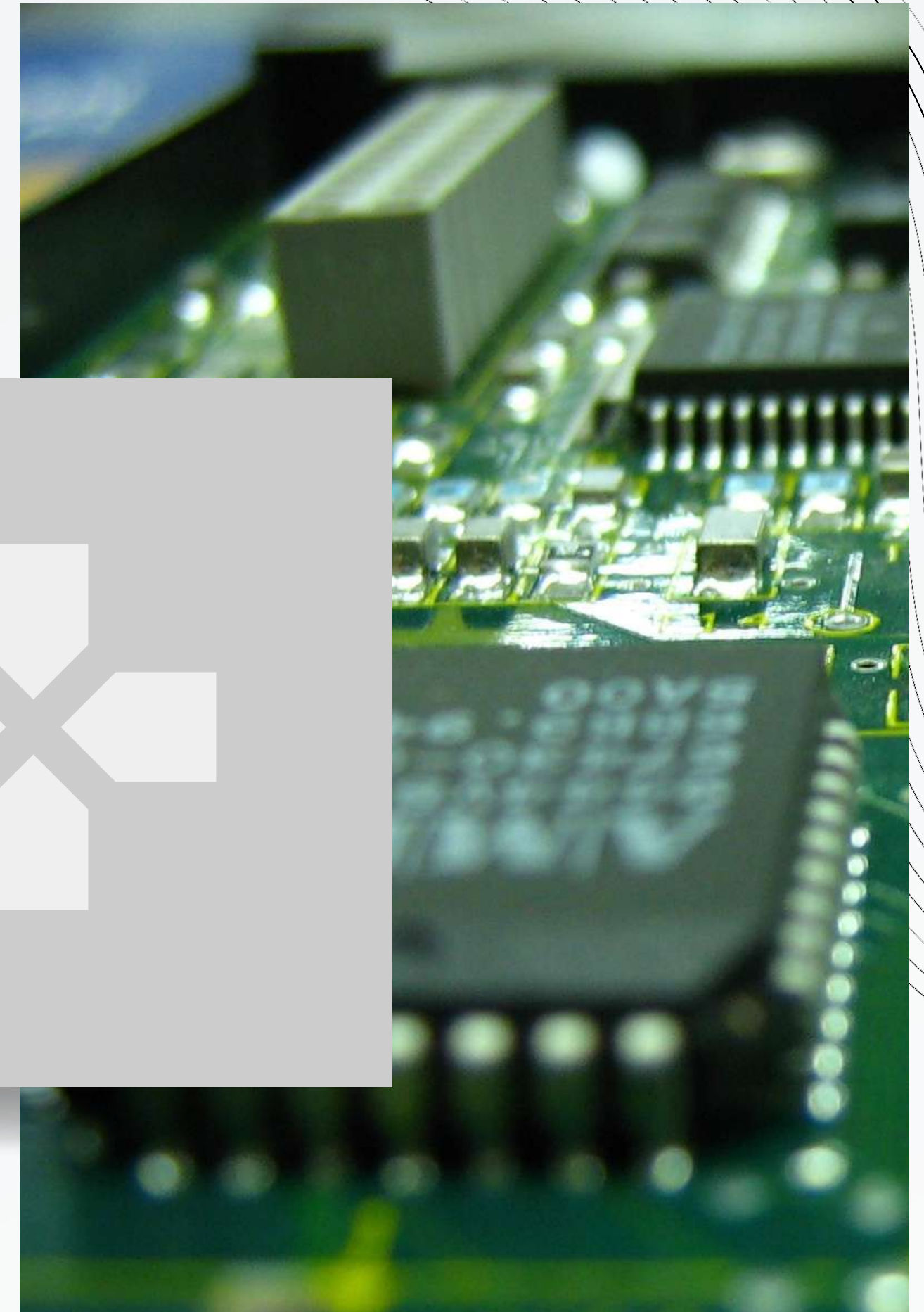
Hotels, Resorts, Offices, Hospitals & Residential Complex

RCU

Controller Module

This is likely the central control unit that manages and coordinates all the other modules and components in the system.

It is the brain of the system that executes user-defined programming and logic.



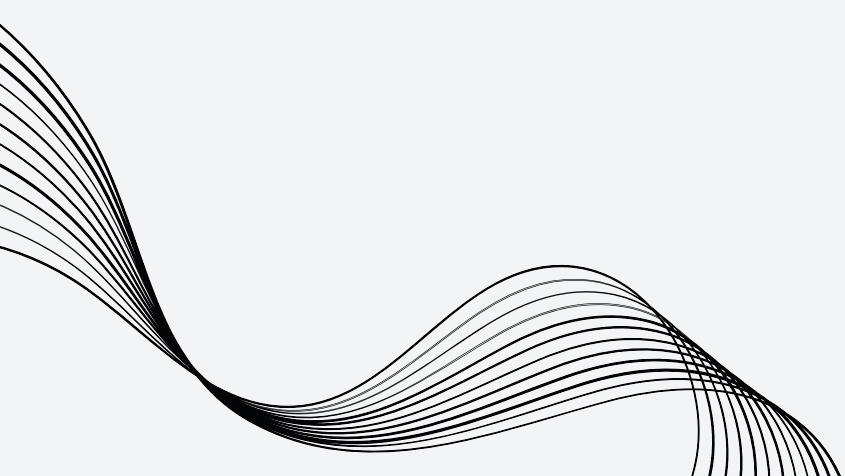
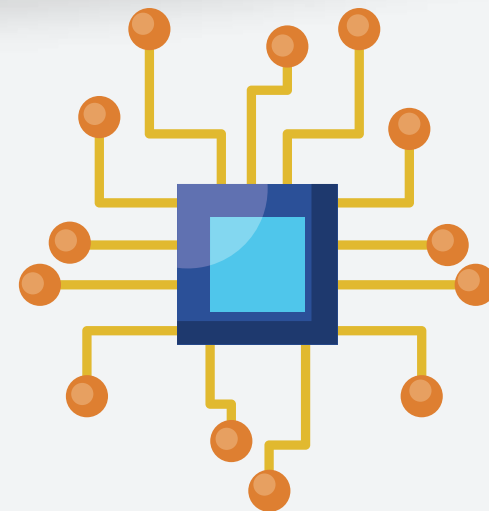
RCU

Controller Module



Features

- Input voltage - 12V DC.
- 24 number of outputs to drive the relay loads.
- 8 number of inputs (Analog/Digital) to connect the sensors in the room like PIR/motion sensor, Temperature sensor, Ambient light sensor, Window/Door sensors etc.
- 3 RS-485 ports to connect
 - Port 1 : To connect Switch panels.
 - Port 2 : To connect Dimmer or other MODBUS modules, also Energy meter, Gas meter, Water meter can be connected.
 - Port 3 : Connect to external world using RS-485 or RS-485 to Ethernet converter or RS-485 to Wi-Fi converter.
- USB port to Download program from any PC using Hotel GRMS Configurator.



RCU

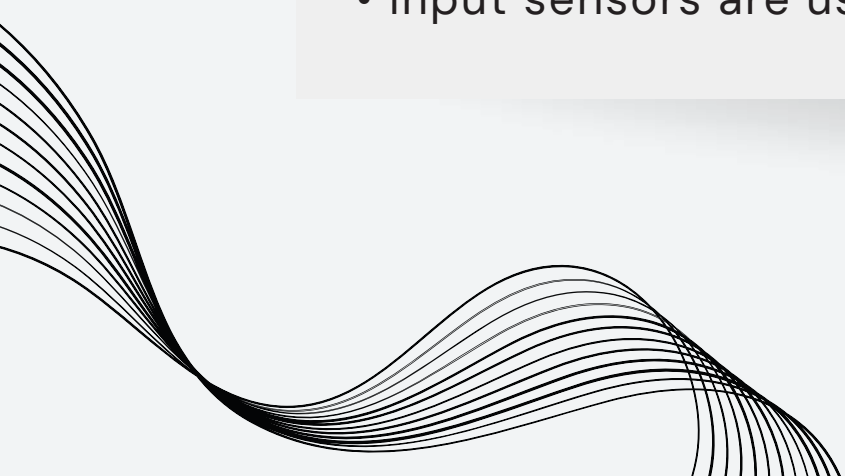
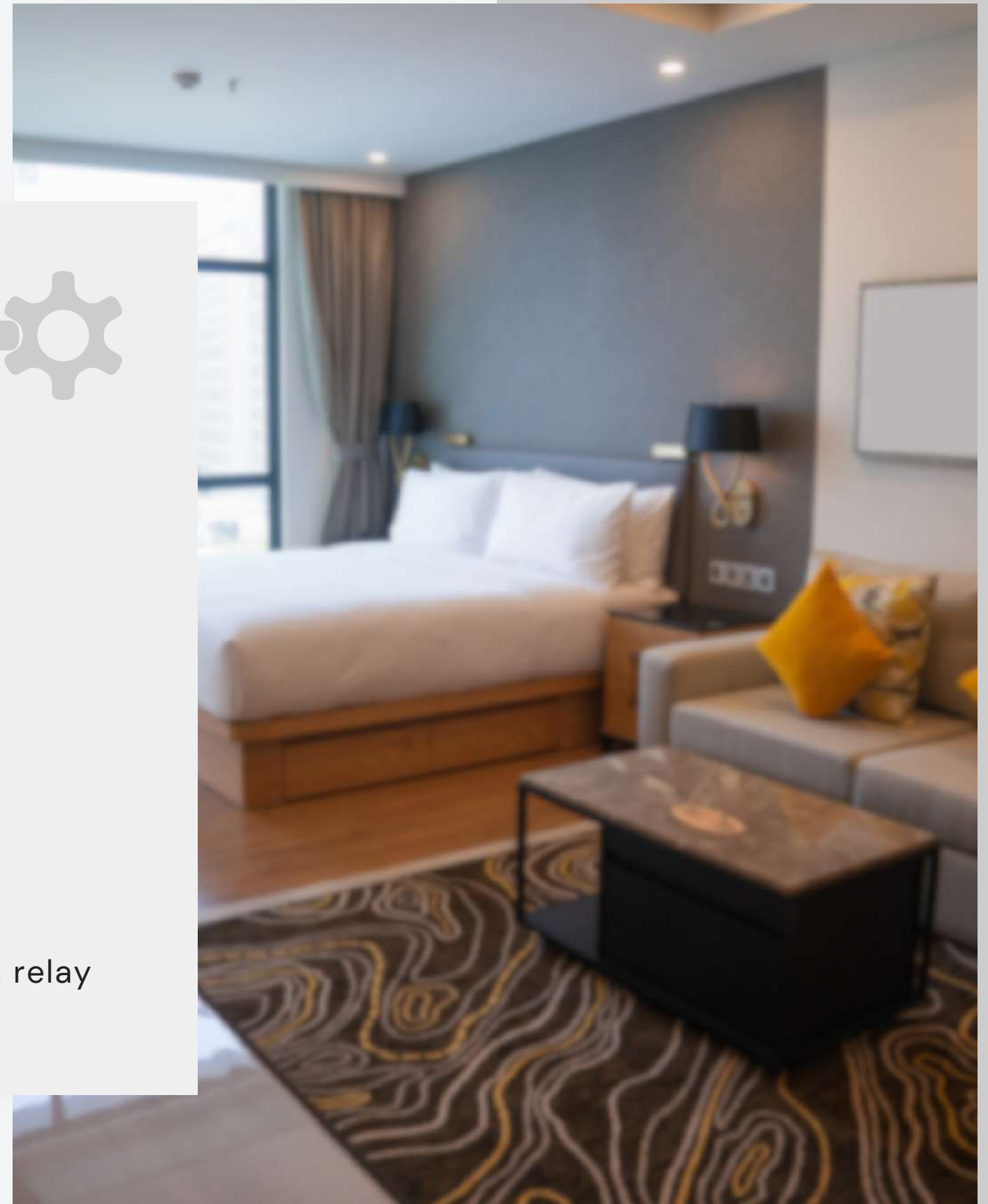
Guest Room Control Unit

The guest room control unit consist of

- RCU Controller module
- Relay Module – 8 Channel (up to 3 such module)
- Dimmer Module – 4 Channel (Multiple nos.)
- Fan Regulator module
- Power Supply module
- Modular Switch Panels with RS-485 communication

The system is fully user programmable

- All switch panels and loads are user configurable.
- Welcome mode are user configurable.
- Energy saving mode.
- Service operation for Occupancy, DND, MMR, and Laundry.
- HVAC Control – 3 Fan speed control via Relays and 1 cooling valve actuation relay
- Input sensors are user configurable.

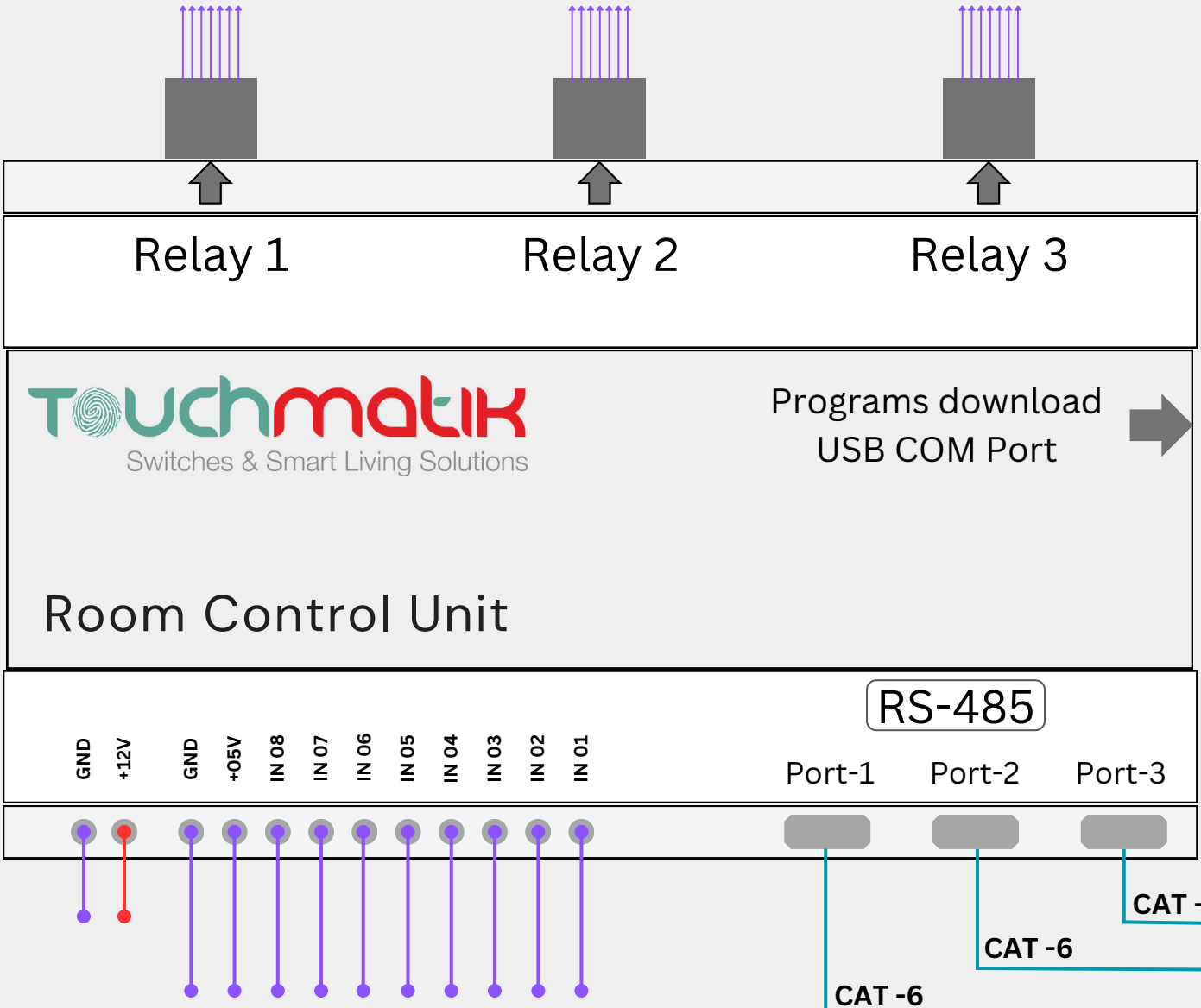


RCU

Guest Room Control Unit - Block Diagram



To Lamps, Curtains, Fan etc.



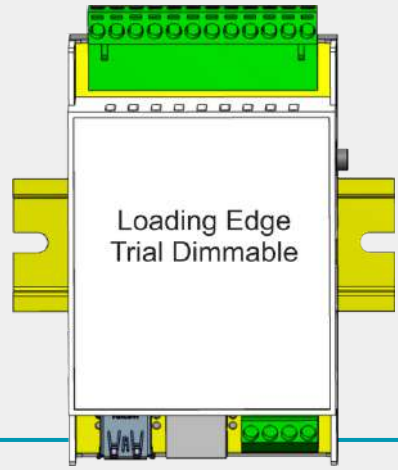
Inputs for...

- Temperature Sensor
- Motion Sensor
- Door Sensor
- Window Sensor
- Ambient Light Sensor
- Mechanical Switch

Ethernet or Wifi Module



Dimmer Module



Bedside Panel



Insert keycard Panel



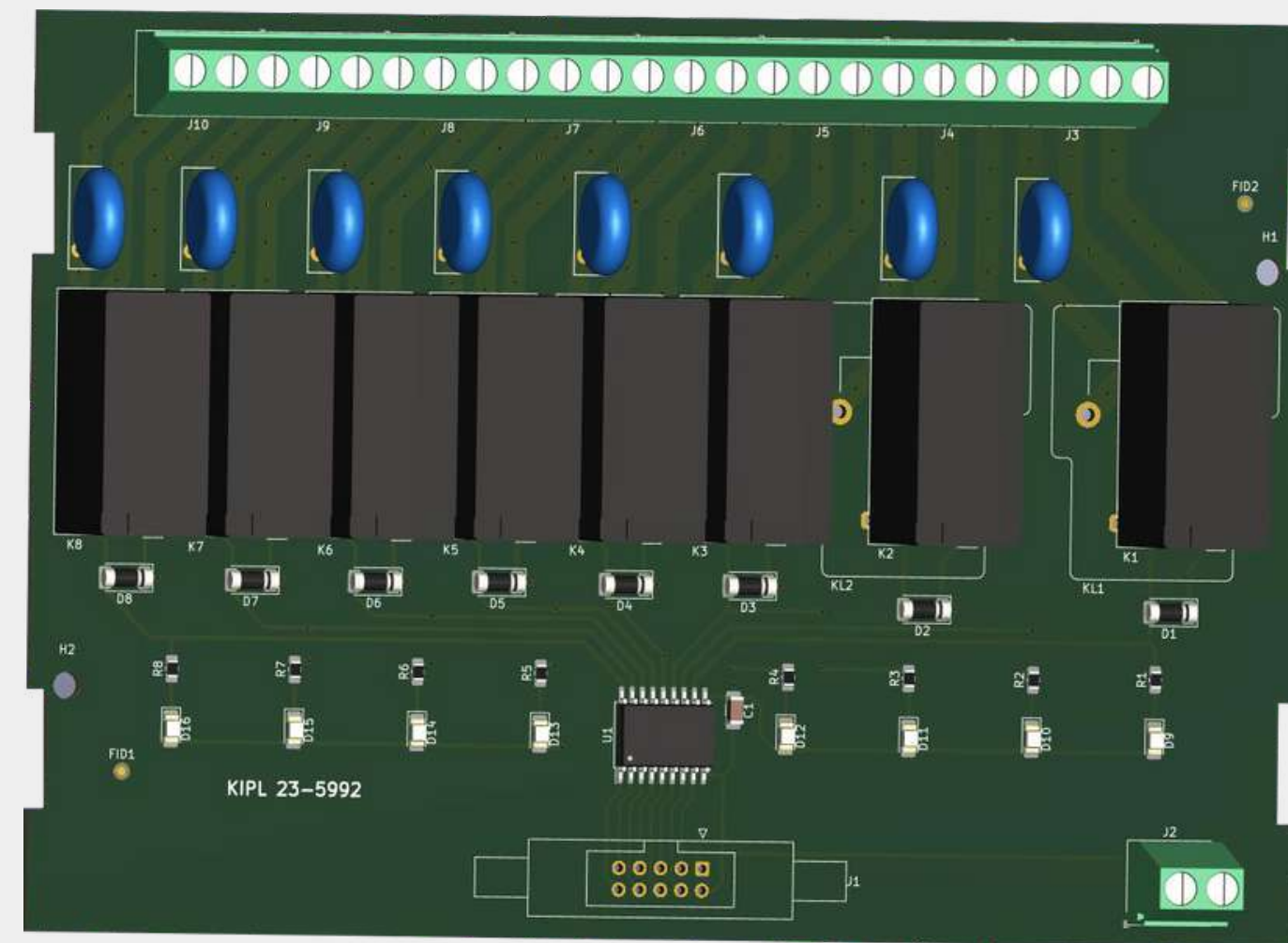
Corridor Panel

RCU

Relay Module - 8 Channel

This module likely controls electrical devices or appliances that require ON/OFF switching with 8 channel, it can manage up to 8 different devices/appliances.

- Connect 8 loads in the room.
- 10A Relays with socket to easy replacement on site.
- Provision of two 30A relays for higher rating loads in the room.
- Independent and fully isolated relays.
- DIN Rail Mount



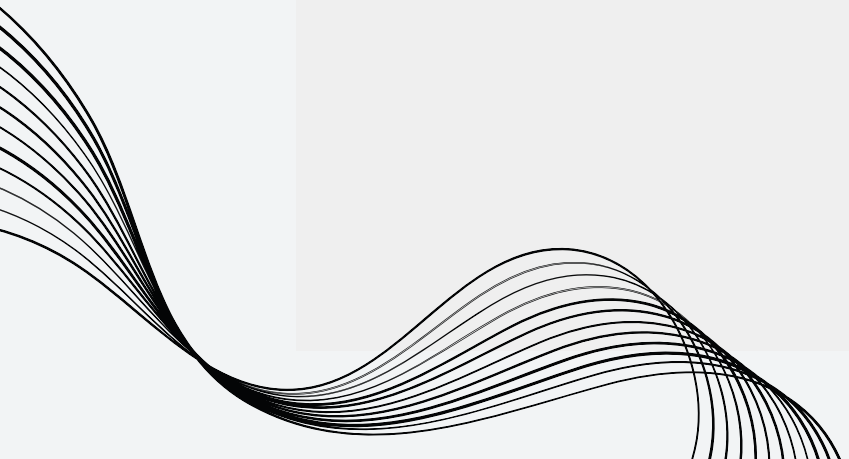
RCU

Dimmer Module - 4 Channel



This module controls the intensity of lighting fixtures with 4 channels. It can adjust the brightness of up to 4 different lighting source. Multiple such modules can be connected to the RCU.

- All leading edge dimmer channels.
- Input voltage 230VAC, 50Hz.
- Each channel output capacity up to 100Watt.
- RS-485 Communication.
- DIN Rail mount

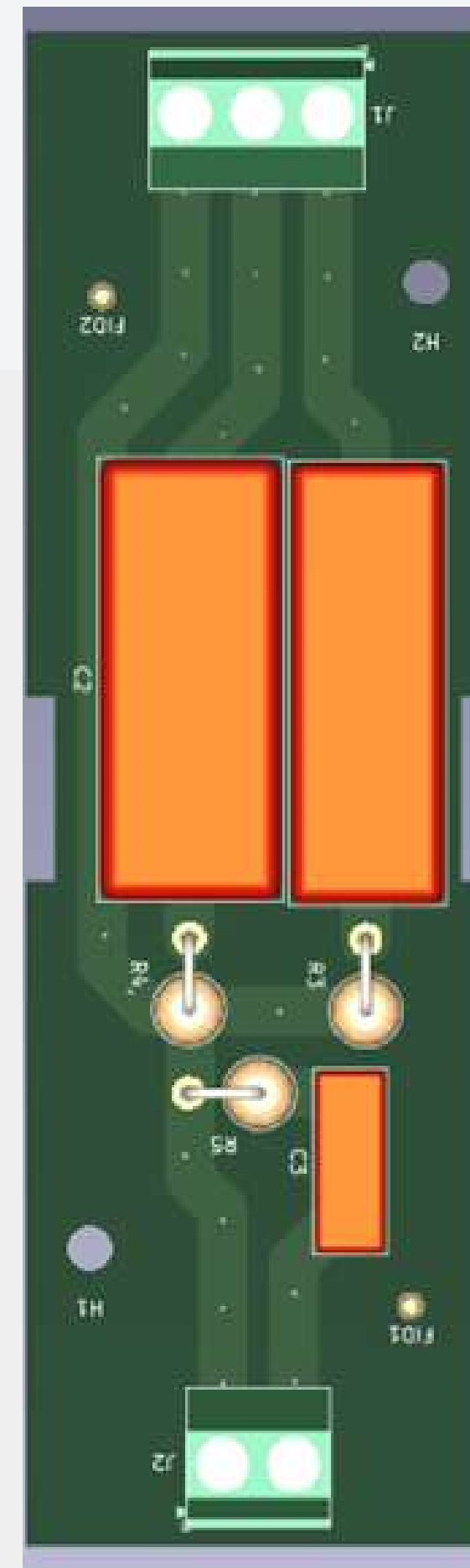


RCU

Fan Regulator Module

This Module probably responsible for controlling the speed of the FAN(s) in the room, allowing users to adjust the FAN speed to their preferences.

- 4 step ceiling fan Capacitor based Regulator
- Humming free.
- DIN Rail mount.



RCU

Power Supply Module

This module provides the necessary power to all the other components in the system. It ensures that the control unit and other modules receive the required power to function properly.



Modular Switch Panel with RS-485 Communication

These are the physical interfaces through which users can interact with the controller unit. The RS-485 communication allows these panels to communicate with the central control unit.



HVAC Control

This aspect involves controlling the heating, Ventilation and Air Conditioning system in the room. It can adjust FAN speeds and actuate a cooling valve for temperature regulation.



RCU

Welcome Mode

This is a mode that can be programmed to create a welcoming environment when guests enter the room. It might involve specific lighting and temperature settings



Energy Saving Mode

This mode likely optimizes energy usage by adjusting lighting, HVAC, and other devices to minimize power consumption when the room is not occupied.



Service Operations

These likely refer to specific operational modes related to guest services, such as Occupancy (detecting if room is occupied), DND (Do Not Disturb), MMR (Make My Room), and laundry notifications.



RCU

User Configurable Switch Panels and Loads

User can setup the functions of the switches on the panels and assign specific devices or appliances to them.

User Configurable Scences

User can configuring up to 8 distinct and programmable lighting combinations, each with its own unique lighting mode. Whether you're winding down with the soothing Welcome mode, Evening Mode, Night Mode, Party Mode, etc.

User Configurable Input Sensors

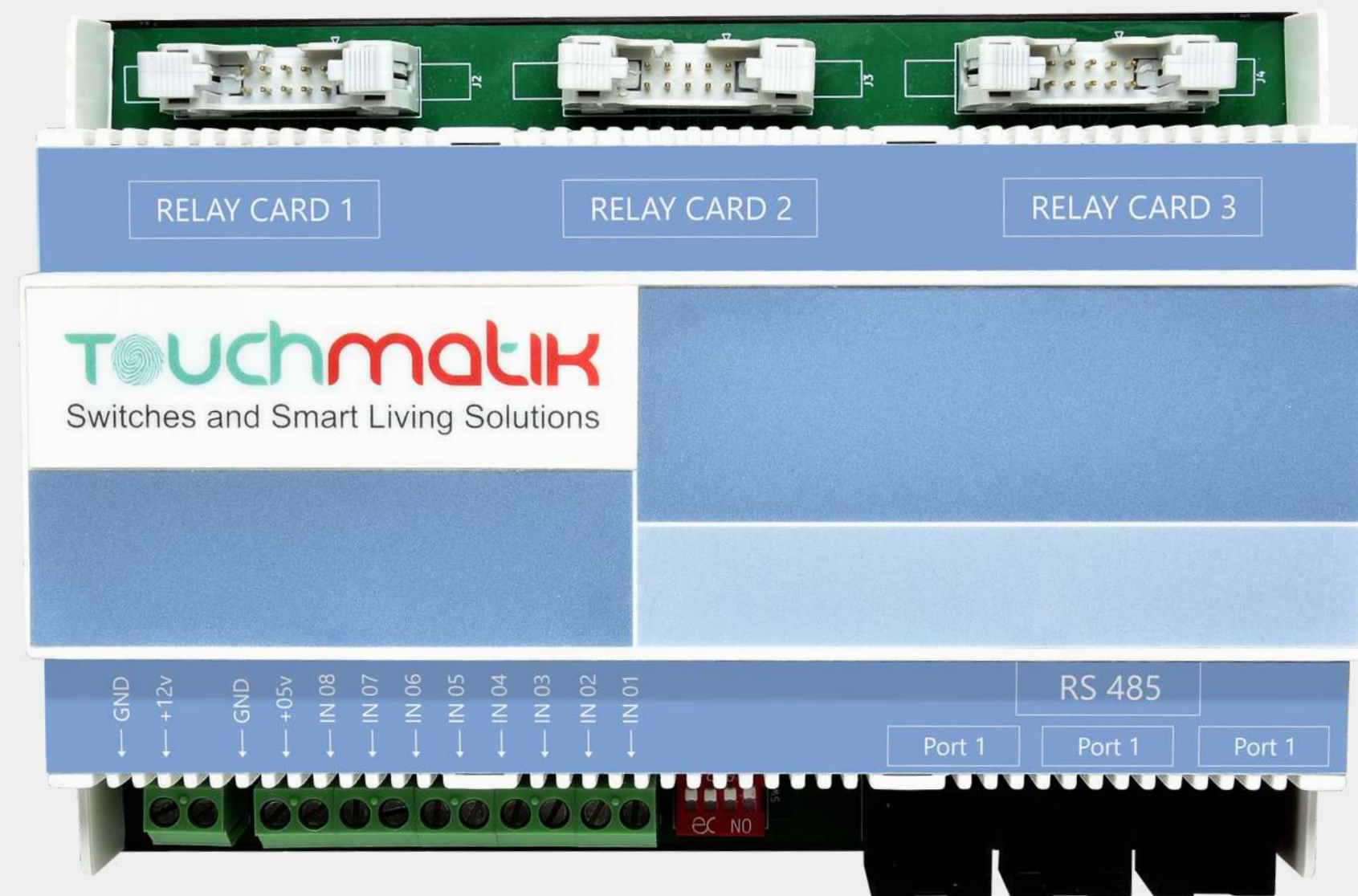
These sensors can be customized by users to detect specific conditions or triggers. These triggers might initiate certain actions within the control unit.

User Programmable System

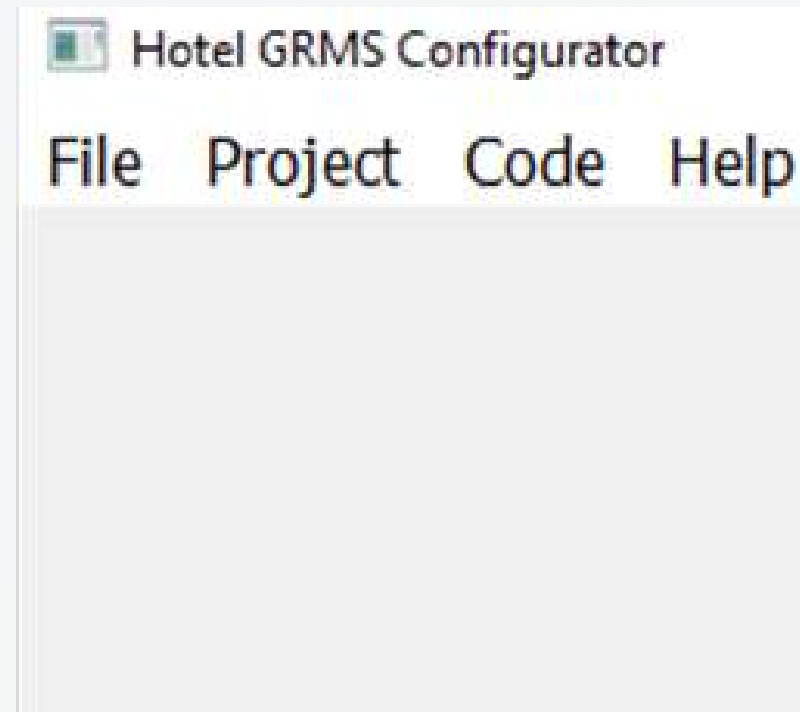
This means that users can customize and program the behavior of the control unit according to their preferences. This could include setting up different scenarios for lighting, HVAC (Heating, Ventilation and Air Conditioning) and other devices.

RCU

Overall, this system provides a comprehensive solution for managing guest room amenities, energy efficiency, and services in a customizable and programmable manner. It's likely designed for use in hotels or hospitality setting to enhance guest experience and operational efficiency



Hotel GRMS Configurator



- It is GUI (Graphical User Interface) for user system configuration/programming and Download on the system.
- The configuration generates text file of the system configuration.
- Convert project txt file to project hex file.
- Download hex file to the system using USB port.

Hotel GRMS Configurator

A screenshot of a software dialog box titled "Project Information". It contains four text input fields: "Project Name:" with "Test2", "Customer:" with "Test2", "Conatct:" with "123", and "Email:" with "abc@abc". At the bottom, there are three buttons: "Open" (highlighted with a blue border), "Save", and "Close".

Project Information

Project Name: Test2

Customer: Test2

Conatct: 123

Email: abc@abc

Open Save Close

- Create, edit and save project information.

Hotel GRMS Configurator



ProgramPanel

Select Panel to Program

Panel-01

	Function	Output	Number
SW-01	SWITCH	LAMP	01
SW-02	FAN-ON/OFF	FAN	01
SW-03	FAN-UP	FAN	01
SW-04	FAN-DOWN	FAN	01
SW-05	CURTAIN-OPEN	CURTAIN	01
SW-06	CURTAIN-CLOSE	CURTAIN	01
SW-07	BELL	BUZZER	01
SW-08	DIMMER-UP	DIMMER	01
SW-09	DIMMER-DOWN	DIMMER	01
SW-10	DIMMER-RLOVR	DIMMER	01
SW-11	MASTER	MASTER	01
SW-12	OCCUPANCY	SERVICES	01
SW-13	DND	SERVICES	01
SW-14	MMR	SERVICES	01
SW-15	LAUNDRY	SERVICES	01
SW-16	SCENE	SCENE	01

SW-01

SWITCH

LAMP

01

Enter

Clear

Save

Close

- 16 panels with 16 switches
- Include all functionality of switch – Lamp, Curtain, Dimmer, Fan, Thermostat, Scene, Bell, Panel Master, and Services.
- Assign functionality to switch panels and save.

Hotel GRMS Configurator



Output Assign

Output Assignment

	Output	Number		Output	Number		Output	Number
RL-01	LAMP	01	RL-11	THERMOSTAT...	01	RL-21	LAMP	02
RL-02	FAN-LOW	01	RL-12	THERMOSTAT...	01	RL-22	FAN-LOW	02
RL-03	FAN-MID	01	RL-13	THERMOSTAT...	01	RL-23	FAN-MID	02
RL-04	FAN-HIGH	01	RL-14	THERMOSTAT...	01	RL-24	FAN-HIGH	02
RL-05	CURTAIN-OPEN	01	RL-15	THERMOSTAT...	02	RL-25	CURTAIN-OPEN	02
RL-06	CURTAIN-CLOSE	01	RL-16	THERMOSTAT...	02	RL-26	CURTAIN-CLOSE	02
RL-07	BUZZER	01	RL-17	THERMOSTAT...	02	RL-27	BUZZER	02
RL-08	OCCUPANCY	01	RL-18	THERMOSTAT...	02	RL-28	OCCUPANCY	02

RL-01 LAMP 01 Enter

Clear

Save

Close

- 24 relays assign to the loads and save.

Hotel GRMS Configurator



Scene Assign

Select Scene First

Scene-01

	Output	Number	State	Level
OD-01	LAMP	01	ON	00
OD-02	LAMP	02	OFF	00
OD-03	FAN	01	ON	03
OD-04	FAN	02	OFF	03
OD-05	CURTAIN-OPEN	01	ON	00
OD-06	CURTAIN-CLOSE	02	ON	00
OD-07	DIMMER	01	ON	05
OD-08	DIMMER	02	OFF	02
OD-09	THERMOSTAT	01	ON	02
OD-10	THERMOSTAT	02	OFF	02
OD-11	LAMP	01	ON	00
OD-12	LAMP	01	ON	00
OD-13	LAMP	01	ON	00
OD-14	LAMP	01	ON	00
OD-15	LAMP	01	ON	00
OD-16	LAMP	01	ON	00

OD-01

LAMP

01

ON

00

Enter

Clear

Save

Close

- 8 scenes with 16 controls in each scene.

Hotel GRMS Configurator



Input Assign

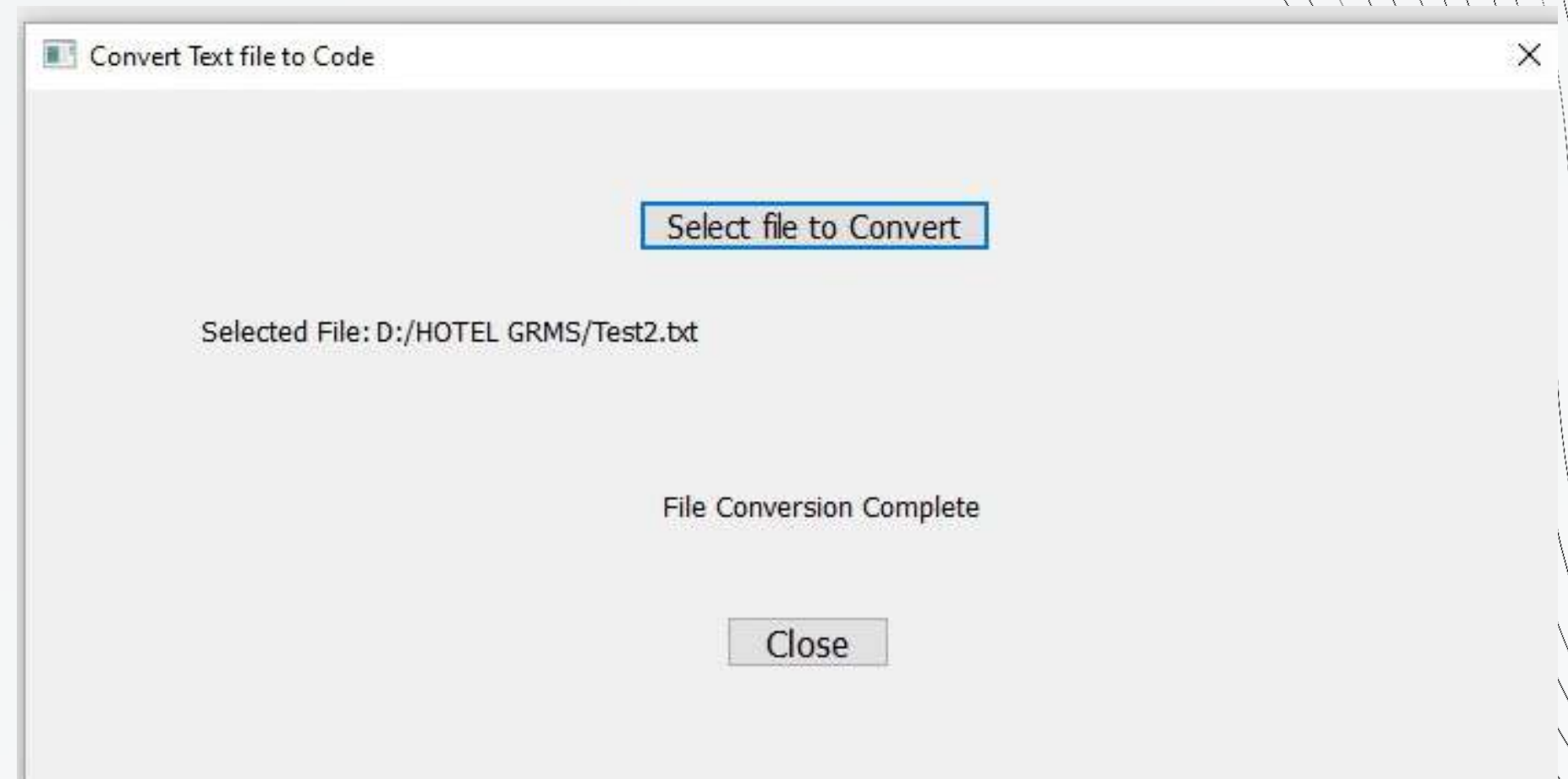
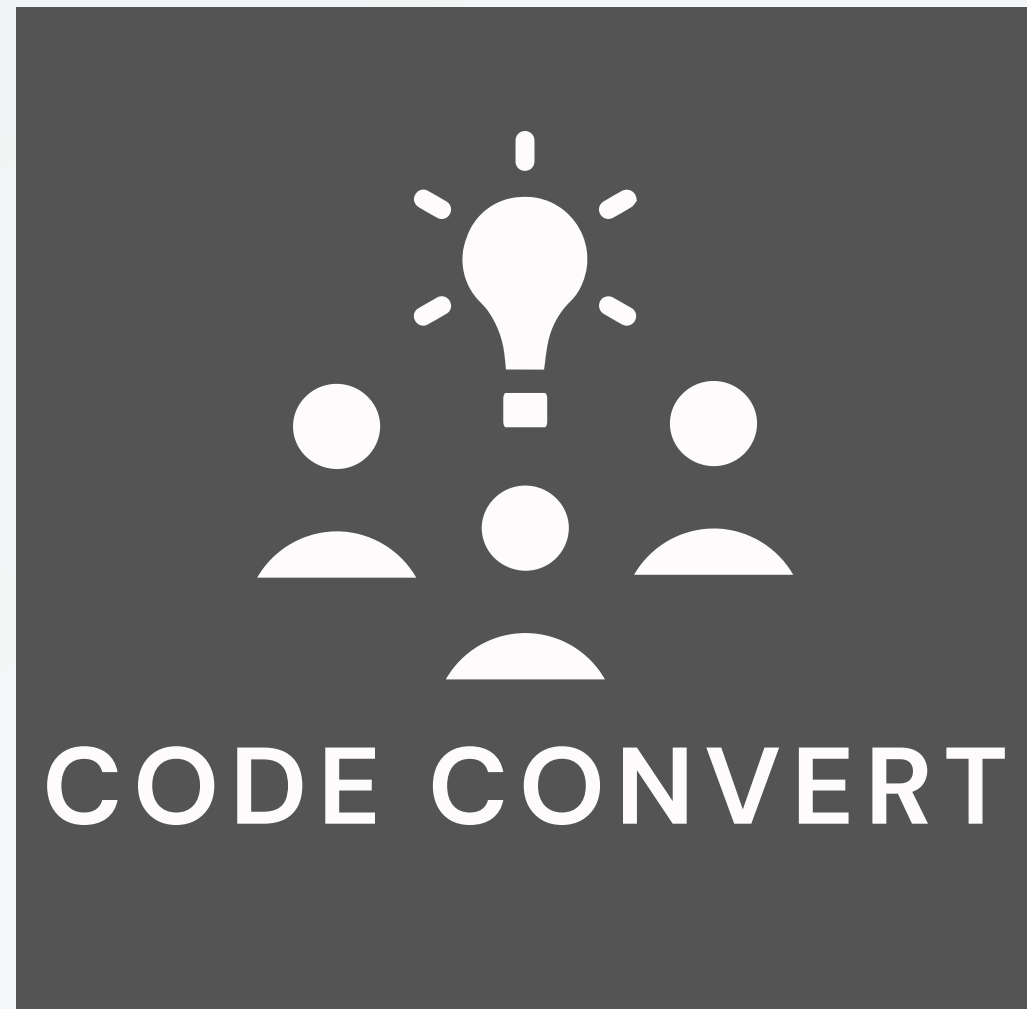
Input Select: IP-01 | Input Type: DIGITAL | Default State: LOW | Output Device: LAMP | Device Number: 01 | Expected State: ON | Enter

	Type	Input State	Output	Number	Output State	ADC-L_Count	ADC-H_Count	PHY-L_Count	PHY-H_Count	THRESHOLD
IP-01	DIGITAL	LOW	LAMP	01	ON	0	0	0	0	0
IP-02	DIGITAL	LOW	LAMP	01	ON	0	0	0	0	0
IP-03										
IP-04	ANALOG	LOW	LAMP	01	ON	0	0	0	0	0
IP-05	ANALOG	LOW	LAMP	01	ON	0	0	0	0	0
IP-06										
IP-07	DIGITAL	LOW	LAMP	01	ON	0	0	0	0	0
IP-08	DIGITAL	LOW	LAMP	01	ON	0	0	0	0	0

Clear Save Close

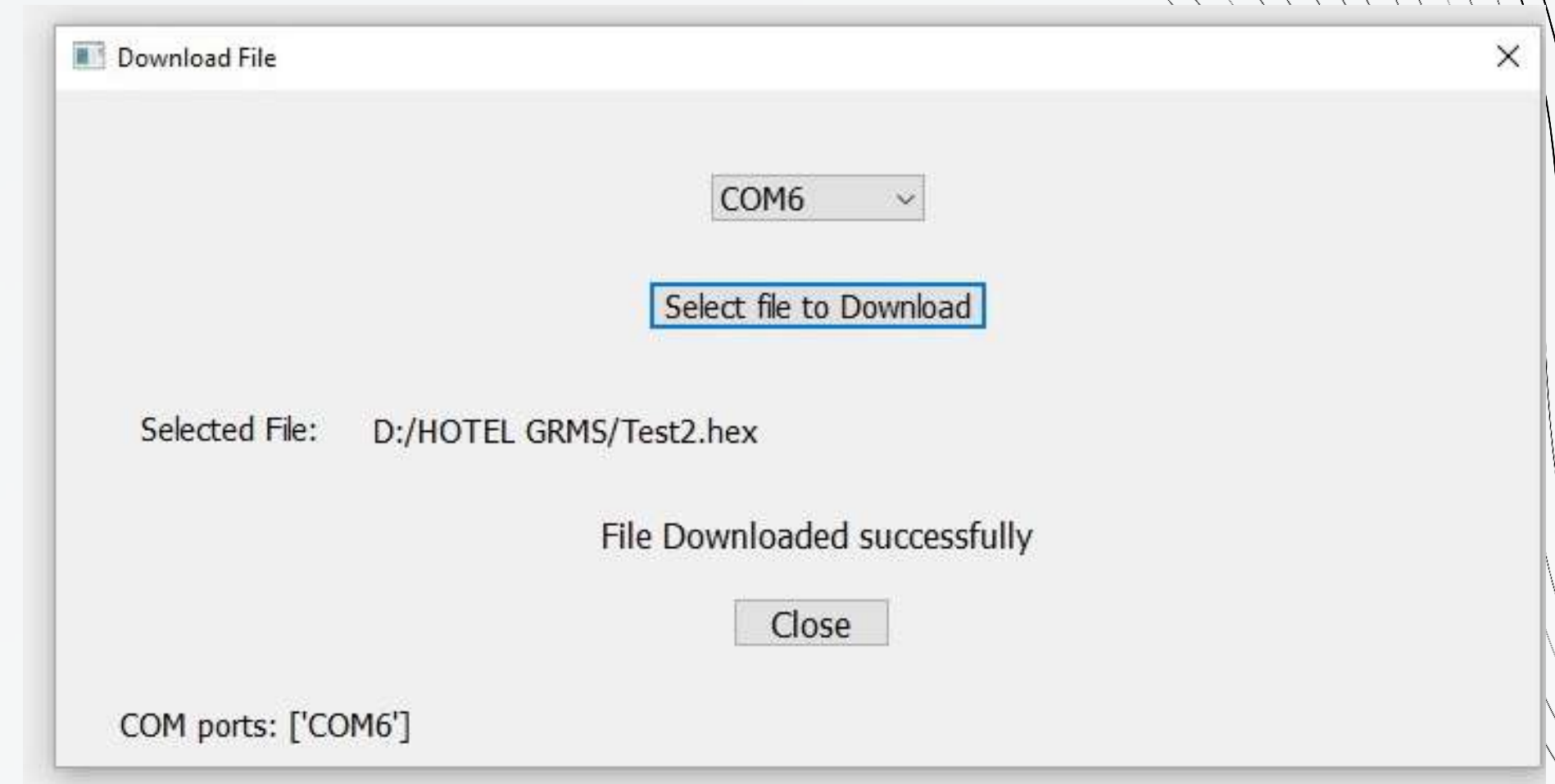
- 8 channel inputs.
- Each input is programmable as Digital or Analog type.
- Each input assign programmable trigger events, and save.

Hotel GRMS Configurator



- Convert the generated configuration text file to the hex code file.
- Just select the file from file explorer and then it get converted it into the .hex file format.

Hotel GRMS Configurator



- Select COM port.
- Select project hex file from file explorer, the program is download into the system via serial com port.

THANK'S FOR WATCHING...



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Smart Touch Electrical Switches,
Functional Printed Electronics and
Sensors for EV*