

Rémo-C RMC-101

programmable relay module
to remotely control a gas-furnace,
air-conditioner, home-appliances
or other electrical loads
based on user's presence
in a Room-Service
home automation system

Room Service system

An Ingénovie home automation concept in which each room or house is managed by a room-manager, an autonomous control system responsible for managing heating, lighting and other electrical appliances automatically,

- According to your presence .
- According to necessity .

Rémo-C

The Rémo-C module contains two independent relay modules to allow the room-manager to control two electrical loads independently, for example:

- A gas-furnace (or fuel), either for ambient temperature management (thermostat function) or for day/night/absent programming, or for both functions.
- An air-conditioner for temperature management and automatic shut-down during your absence.
- A water heater or home appliances to start during low-rate hours.
- A high-power lighting unit like a chandelier, or architectural lighting.
- A small water-pump or electric valves for garden sprinkler, water-reservoir pump, fountain animation, etc.
- Interface with alarm system, to trigger or activate the system.
- Interface with heating, ventilation and air-conditioning system (HVAC).
- To control electric-outlet and other electrical appliances such as washing-machine, television, hifi set, etc.

Features

- Two independent relays with available contacts for normal-open and normal-closed connection.
- Two contact inputs to connect a thermostat, a switch, push-button or other sensors.
- Programmable settings for different input types: push-button / momentary contact, inverted logic, toggling function, and enable link to relay.
- Programmable settings for the relay outputs: Momentary pulse mode (eg. to start a machine), timer mode (with programmable delay).
- DIN-Rail format.

Simple installation

Thanks to its DIN-Rail format, the Rémo-C module can be installed quite easily in an electrical-cabinet or in a small electrical enclosure adapted to the use, for example in a water-proof enclosure for an outdoor air-conditioner control.



Coexist with a mechanical thermostat

The Rémo-C module can replace an ambient thermostat to give an intelligent energy management according to the presence of the inhabitant.

It can also be connected in series or in parallel

with a mechanical thermostat to have a mechanical fall-back system, for example to have a maximum temperature setting controlled by an existing mechanical thermostat. This configuration allows the room-manager to use the setting from the existing thermostat during your presence, and to lower the setting during your absence to save energy.

PoliNet Home Automation Network

Rémo-C is equipped with a PoliNet network module to communicate with his room-manager.

PoliNet network, an Ingénovie's innovation, offers important features to build a simple and reliable home automation system :

- Power-Line Carrier system (PLC), using existing electrical installation. Hence, the traditional installation remains operational.
- Secure bi-directional protocol. Each command is authenticated by an electronic signature, and acknowledged to ensure a good reception.
- Decentralized cooperative network. In this system there is no central unit that takes all the decisions. Several room-managers in an installation can communicate to each other to synchronize their operating modes. For example, the room-manager in the entrance will announce your arrival and the other room-to-managers may decide to raise their thermostats.
- Conforming to EN-50065. The European standard ensures, among others, that devices using the same frequency band can co-exist in the same installation.
- Flexible addressing. Each device is assigned a three-digit ID: house-id, room-id and device-id giving a broad and flexible address space for a home automation application.

Driver software

The Rémo-C driver software is integrated into the Room Services software suite. (from version 2.1.5).



- Automatic identification of devices available in the network.
- Independent setting for each input-output.
- Manual command: to turn on or off to trigger timer function.
- Shortcut to the main menu.
- Label modification associated with the device.
- Independent configuration between each relay and a Room-Service application software.
- Modification of the device ID.

Room-Services

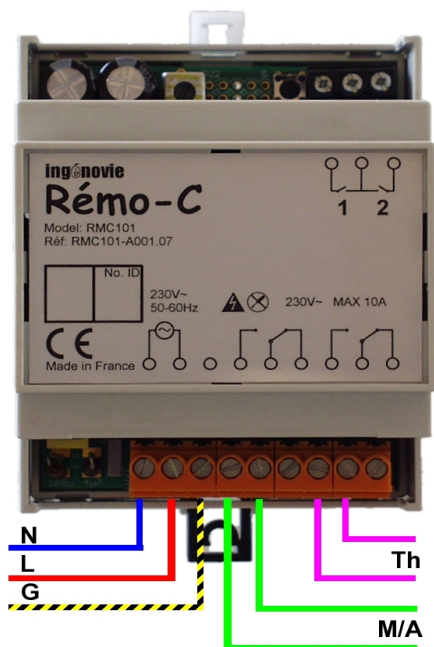
software suite

Rémo-C, like all devices managed by a room-manager may be associated with one or more application from the Room-Service software suite.

Independent Configuration

Each relay / input is considered as an independent device, and can be configured with any application.

Each link between a relay and an application has it's specific configuration allowing you to create different setting to apply according to the active context, or according to the chosen application.



Example of installation schematic to control a furnace..

Technical spécifications :

Power Supply:

- Voltage/frequency : 230V 50/60Hz

Powerline Communication

- Protocol : PoliNet
- Frequency : 132 khz
- Compatibility : EN50065

Weight and dimension

- Dimension : 70 x 90 x 58 mm (l x w x h)
- Weight : 250 g.

Mounting

- DIN-Rail EN 60 715 TH35.
- Wall mount option with two screws.

Relays:

Switch capacity

- Non-inductive charge up to 10A (2300W).

Cable diameter:

- 0,5mm to 4,0 mm.

Auto Turn-Off

- Programmable delay from 1 to 256 minutes.

Pulse / trigger Mode

- Programmable Pulse length from 16ms to 4 seconds by steps of 16ms.

Sensor inputs:

- Dry contact / thermostat.
- TTL/Opto-coupler/open-collector compatible.
- Momentary contact mode.
- Inverted mode.
- Toggle mode.

Application diagram

