

Operating Instructions

RATIO® Radio Bus System

UP-Repeater 2-Level UPR230/03



General Information:

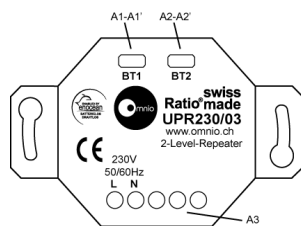
The Ratio® switch actuators/receivers are controlled via radio signals of the Ratio® radio transmitters. Every transmitter can control an unlimited number of actuators/receivers. The Ratio® radio transmitters have a fixed address and must be learned in for Ratio® actuators / receivers.

Product description:

The Ratio® 2-level repeater UPR230/03 serves for the amplification of the radio telegram between Ratio® radio senders and Ratio® radio receivers. The Ratio® 2-level repeater is used in case of range difficulties between Ratio® radio senders and Ratio® radio receivers. All originally and valid received enocan-telegrams and all already amplified telegrams between sensors and receivers/actuator will be resend.

The Ratio® 2-level repeater UPR230/03 features two operation modes, the 1-level and the 2-level-mode which will be selected by the two push buttons BT1 and BT2. In operation mode BT1 (1-Level) all originally received telegrams will be processed. In the operation mode BT2 (2-level) all originally and all telegrams already amplified by a 1-Level-repeater will be processed.

Position and function of the display and operating elements



- A1: Button BT1 for selecting the operationmode.
A1': LED BT2 indicating the operationmode
- A2: Button BT2 for selecting the operationmode.
A2': LED BT2 indicating the operationmode
- A3: Screw-type terminals 4mm² for connection of the supply voltage and the load circuit

Technical data

Connection voltage: 230VAC

Installation instructions

The device may only be used for fixed installation indoors, in dry rooms and for installation in plastic sockets, taking into consideration the technical data.

Warning:

- The device may be installed in flush-mounted sockets (230VAC) and may only be installed and taken into operation by a licensed specialist electrician.
- Please make sure that the device can be enabled by means of a line safety switch.
- For insulation tests, the connection line (outer and neutral wire) have to be connected with each other.
- For wire insulation tests which, contrary to today's valid standard DIN VDE 0100 T.610, measure wire against wire, the device has to be disconnected; otherwise, it may be destroyed.
- When planning and setting up electrical systems, the pertinent directives, rules and regulations applicable in each country have to be observed.
- The applicable safety and accident prevention regulations have to be observed.
- The technical data of the device, in particular the data of the switch contact, have to be observed.
- Do not open the device. A defective device has to be returned to the trader or the Omnia AG agency in charge.

Assembly and Wiring

The Ratio® UP repeater can be used in plastic sockets, for flush or surface mounting or in devices.

The position and the ranges depend on the materials used in a building. Do not install the Ratio® UP actuator in a casing made of metal or in the immediate vicinity of large metal objects. Installation close to the floor or on the floor is not recommended. See the data sheet Range Planning under www.omnio.ch.

Connecting control and load circuits:

- The connections consists of screw-type terminals 4mm².
- Strip the wires approx. 9..10mm, insert them into the terminal and tighten the screws using a screwdriver size 1.
- Max. two wires with 1.5mm² cross-section may be connected.

Range between transmitter and receiver

The signal strength of the radio signals decreases with rising distance between transmitter and receiver. If there is any visual contact, the range is approx. 30m in corridors and 100m in halls. In buildings the range of the radio signal is dependent on the construction materials used:

Material	Typical range	Material	Typical range
Brickwork	20m, through max. 3 walls	Plaster boards / wood	30m, through max. 5 walls
Reinforced concrete	10m, through max. 1 wall / ceiling	Heat-insulating windows	5m, through max. 1 window

Limitation of the range of the radio signals due to:

- Installation of the transmitters / receivers in the direct vicinity of materials with metal components or metal objects. A distance of at least 10cm should be observed.
- Installation of the receivers on the floor (floor outlet) or close to the floor
- Humidity in materials

Devices that also emit high-frequency signals, e.g. computers, audio and video systems or electronic ballast for illuminants. A minimum distance of 50cm should be observed.

Learning in and unlearning of radio transmitters

It is not needed to learn in sensors.

Commissioning and operation modes

At delivery, the repeater is in the 1-level-mode.

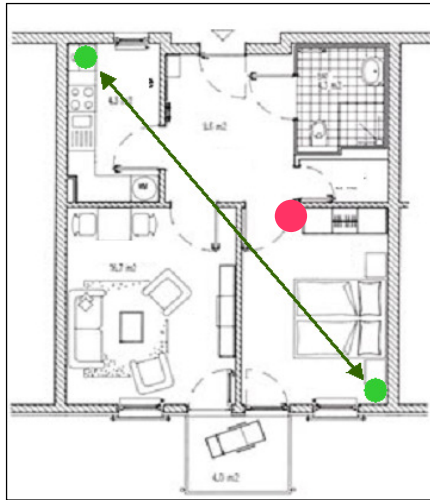
Keep the **BT2** button pushed. After 4 seconds, the 2-level mode becomes active, indicated visually by the flashing **BT2**-LED.

Keep the **BT1** button pushed. After 4 seconds, the 1-level mode becomes active, indicated visually also by the flashing **BT2**-LED.

Assembly

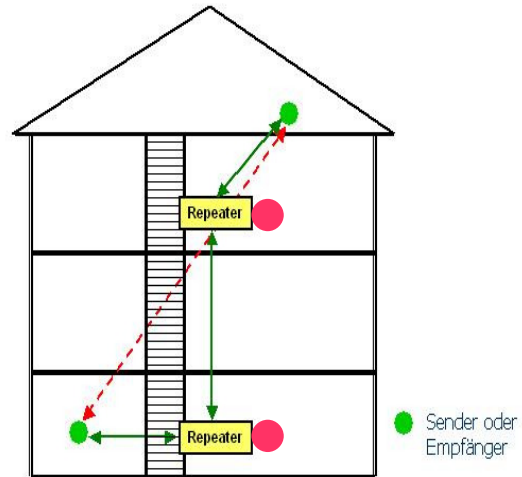
Basically the Ratio® 2-level repeater are used in case of range difficulties between Ratio® radio senders and Ratio® radio receivers. That range-problem should be solved by placing a repeater in the 1-level mode between sender and receiver. Does the problem still exist, a second repeater in operation mode 2-level can be considered. Both repeater should then set into the 2-level operation mode.

Example flat:



- Sender oder Empfänger
- Repeater in 1-Level Betriebsart

Example residence with 3 floors



● Sender oder Empfänger

Legal requirements / old devices

The transmitters may not be used in connection with devices that are employed, directly or indirectly, for health- or life-saving purposes or if their operation may cause hazards to human beings, animals or property. Do not leave packaging material lying around carelessly. Plastic foils/bags, etc. may be hazardous toys for children.

These operating instructions are part of the device and part of our warranty terms. They have to be handed over to the customer. The technical specifications of the device may be changed without prior notice.

Do not throw old devices into the domestic garbage can. The device contains electrical components that have to be disposed off as electronic waste. The case is made of reusable plastic material.

Wiring diagram	Designation	Type	Articlenumber
	Ratio®-UP-Repeater 2-Level, Supply 230VAC	UPR230/03	9004000