

# Omnio AG, CH-8426 Lufingen

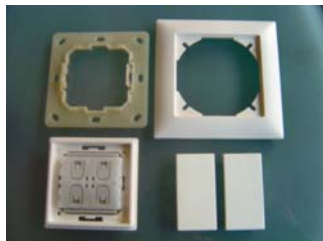
Radio bus system Ratio®



Description	Color	Type	Order No.
Wall-mounted radio transmitter, single, with rocker	clear white	WS-CH-101 rw	1151 153
	black	WS-CH-101 sw	1151 150
	silver	WS-CH-101 sb	1151 200
Wall-mounted radio transmitter, double, with two rockers	clear white	WS-CH-102 rw	1251 153
	Schwarz	WS-CH-102 sw	1251 150
	silver	WS-CH-102 sb	1251 200

Accessories	Size	Combinations	Type	Order No.
Fitting plate for combinations of vertical fitting	1	F	BP1-F	1900 001
	1+1	F+C	BP1-FC	1900 002
	1+1+1	F+C+C	BP1-FCC	1900 003
	1+1+1	F+F+C	BP1-FFC	1900 004

F = Wall-mounted radio transmitter, C = Conventional switch, push-button, socket



1. Fitting plate
2. Design frame
3. Inlay frame with radio sender
4. Rockers



Wall-mounted sender, set into a designer frame Feller - Edizio Due

- When mounting, especially observe the identical alignment of the corresponding marks „0“ und „I“ on the radio transmitter and push-button.

#### Mounting with fitting plate for combinations:

- Mount the corresponding fitting plate vertically
- Put the design frame to the fitting plate and screw the inlay frame to the fitting plate. Tighten the screws carefully
- Lock in wall transmitter and push-buttons
- Fit in conventional push-buttons and socket
- When mounting, especially observe the identical alignment of the corresponding marks „0“ und „I“ on the radio transmitter and push-button.

#### Removal:

Remove rocker (push rocker and pull), remove inlay frame by snapping off the latches or removing the screws at the top and the bottom.

#### Note on installation

The Ratio® universal radio transmitter has a depression on its backside. Stick the adhesive sheet into this depression to fit the transmitter to any even surface. The Ratio® universal radio transmitter should not be fitted to metal surfaces or anywhere near them.

The Ratio® universal radio transmitter has a depression on its front side. The two keys near the depression are the «On» keys; the two further away from the depression the «Off» keys.

The Ratio® universal radio transmitter should not be opened.

- Placement and ranges depend on the materials used in a building. Please refer to the leaflet «Range Planning» under [www.omnio.ch](http://www.omnio.ch)

#### Warning

- The device should only be installed and taken into operation by a professional electrician.
- The applicable security and accident prevention regulations must be observed.
- The device must not be opened. A defective device must be returned to the retail agent or the corresponding office of Omnio AG.

#### Fitting

General:

The Ratio® universal radio transmitter may be screwed or taped to walls.

Placement and ranges depend on the materials used in a building. Do not fit the Ratio® universal radio transmitter into metal cases or in the direct vicinity of large metal objects. Fitting the transmitter close to or on the ground is not recommended. Please also read the leaflet «Range Planning» under [www.omnio.ch](http://www.omnio.ch).

#### Range between sender and receiver

The signal strength of the radio signals decreases with increasing distance between sender and receiver. At intervisibility, the range is approx. 30m in corridors and 100m in halls. Inside the building the range of the signals depends on the building materials used:

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

The range of the radio signals is restricted by:

- Mounting of the sender / receiver in the close vicinity of metal containing materials or metal objects. A minimal distance of 10cm must be kept
- Mounting of the sender / receiver on the ground or close to the ground
- Humidity in materials
- Devices that also send high-frequency signals, e.g. computers, audio and video devices or electronic series-mounted devices for illuminants. A minimal distance of 50cm must be kept.

#### Sender Telegram design

Byte	Symbol	Significance	Value
0	Sync_Byte 1	Synchronization	A5h
1	Sync_Byte 0	Synchronization	A5h
2	Header		
3	ORG	Sender type	05h
4	Data 3	Key pair A Key Off Key pair A Key On Key pair B Key Off Key pair B Key On	48d 16d 112d 80d
5	Data 2	no significance	
6	Data 1	no significance	
7	Data 0	no significance	
8	ID 3	Unique ID 3	
9	ID 2	Unique ID 2	
10	ID 1	Unique ID 1	
11	ID 0	Unique ID 0	
12	Status	Statusbyte	
13	Cchecksumme	Checksum	

#### Legal regulations

The senders must not be used with other devices that are used directly or indirectly for live or health ensuring purposes for humans or by whose operation danger arises for humans, animals or assets. Do not leave the packing material carelessly; plastic foil/bags etc. are dangerous toys for children. This manual is part of the device and our guarantee regulations. It must be handed to the user. Technical specifications of the device may change without prior notice.

#### Old devices

Do not dispose of old devices into your household litter bin. The device contains electric parts that must be disposed of as electronic waste. The casing consists of recyclable synthetics.

#### General note

For questions please contact our technical support:

Phone +41 1 876 00 41

Fax: +41 1 876 05 29

Mail: [support@omnio.ch](mailto:support@omnio.ch)

Internet: [www.omnio.ch](http://www.omnio.ch)

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Version: September 2005

File: 1151\_1251\_Manual\_ea.doc

#### General

The Ratio® switch actuators/receivers are activated by radio signals from Ratio® radio senders. Each sender can actuate an indefinite number of actuators/receivers. The Ratio® radio senders have a fixed address and are programmed into Ratio® switch actuators/receivers. The Ratio® switch actuators activate various end users such as light bulbs, blinds, gates, doors, control valves and others.

#### Product and function description

The Ratio® radio transmitter allows for wireless and battery-free remote control of Ratio® radio bus receivers. Opposite keys build a key pair and send a radio telegram when pressed that is received and analyzed by all Ratio® radio bus receivers. The wall-mounted Ratio® transmitter device may be fitted into frames of 58mm width as used in Switzerland.

It is compatible with following switch designs:

Brand	Switch program
Feller	Edizio Due, Edizio
ABB	Levy Sidus
Hager	Kalisto

The Ratio® universal transmitter may be used in foreign systems such as EIB, LON and SPS'en by means of a suitable interface gateway.

The Ratio® universal radio transmitter may be fitted to glass, brickwork, etc. by means of an adhesive stripe or a magnet panel.

#### Functions

With the Ratio® universal radio transmitter you may send the following signals:

- Switching on / off
- Dimming brighter / darker
- Up / down
- Adjust lamella
- Short keystroke
- Longer keystroke

The signal sent is analyzed in the receiver unit.

#### Technical Data

**Sending frequency** 868,3 MHz. **Bandwidth** +/- 120KHz

**Sending capacity** 10 mW

**Modulation type** ASK

**Power supply** by Dynamo generator, battery-free

#### Operating elements

- 1 rocker for single sender
- 2 rockers for double sender

#### Mechanical data

- Casing: Synthetics ABS
- Measurements W x H x D: 58mm x 58mm x 16mm
- Mounting: screwing or sticking with double-sided tape
- Weight: approx. 40 g

#### Electric security

- Protection IP20

#### Surrounding conditions

- Environmental temperature when in operation: -20°...+ 45 C
- Storing temperature: -25°...+ 70°C
- Relative humidity (not condensing): 5.93%

#### Approbations

CE according to EMV guidelines (residential and industrial building)  
Conforms to R&TTE guidelines 1999/5/EC and to EU regulations.

#### Mounting

Enclosed in the radio transmitter set is a synthetic mounting plate, size 1. Use the special fitting plates as listed in the accessory list for mounting the radio transmitter in a combination frame together with conventional push-buttons and sockets.

The Ratio® radio transmitter is mounted to the wall using an adhesive or directly screwed to a smooth surface.

The fitting plate can be stuck or screwed to a surface and easily fits on glass and on plaster. If you are fitting the transmitter to a structured surface, first create a flat spot to prevent the central plate from distorting when mounted. Especially when fitting to rough surfaces, consider that uneven surfaces may lead to functional failure. It is also imperative that no dust particles reach the interior of the radio transmitter.

#### Screws:

Only use screws that are suitable in size. Detach the fitting plate from the radio transmitter and use it to stencil the boreholes. Bore 5mm holes for the screw anchors, fit central plate and switch.

#### Adhesive:

The Ratio® radio transmitter can be stuck to a smooth surface such as glass, painted walls, tiles, furniture, wood, etc. by means of the enclosed adhesive stripe.

#### Mounting with synthetic fitting plate:

- Mount the fitting plate (the wide latches of the central plate must be positioned at the top and the bottom to lock into the radio transmitter)
- Lock in the design frame, inlay frame, radio transmitter and push buttons one after the other.