
# CBU-RLVF-1P

## Instructions manual

Read this manual before installation.
Keep this manual for future reference.

***WARNING**: Risk of electrical shock, personal injury or death.*
*This device may only be installed and put into operation by qualified personnel.*
*Check the information of the devices to be controlled to see if they are compatible.*
*This device is designed for use in lighting and industrial control.*
*Do not use this device in equipment where malfunction may cause severe personal injury or threaten human life.*
*Turn power off before installing the device.*
*Respect national and applicable installation regulations.*
*If damage or malfunction should occur during operation, immediately turn power off and send device to the factory for inspection. Do not open, modify or repair the device. The device does not contain serviceable parts.*

## Description

CBU-RLVF-1P is a Casambi relay for controlling non-dimmable loads and systems with volt-free inputs (garage doors, HVAC systems…). CBU-RLVF-1P device uses Bluetooth Low Energy communication to receive a command signal from the Casambi app and control the voltage-free contact of the internal relay according to the selected fixture profile.

CBU-RLVF-1P has a voltage-free contact output of up to 13A and allows three different power supply modes: AC, 24VDC and 12VDC.

There are several Casambi fixture profiles available for CBU-RLVF-1P, which include different control modes: Toggle, Independent Toggle, Press, Pulse…

CBU-RLVF-1P also integrates a dedicated push button input for controlling Casambi devices.

Configuration and control can be done from a mobile phone or tablet using the free CASAMBI APP (available for iOS and Android).

To access all user guides and documents, consult below link or scan QR code:

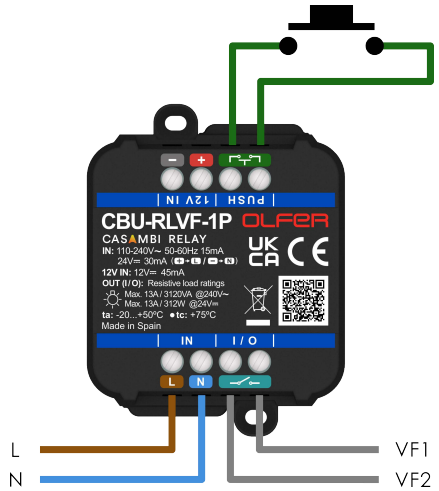
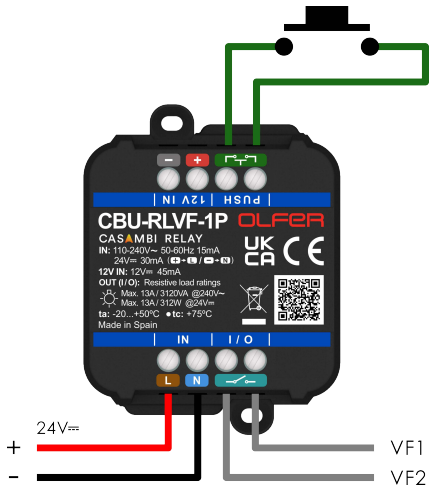
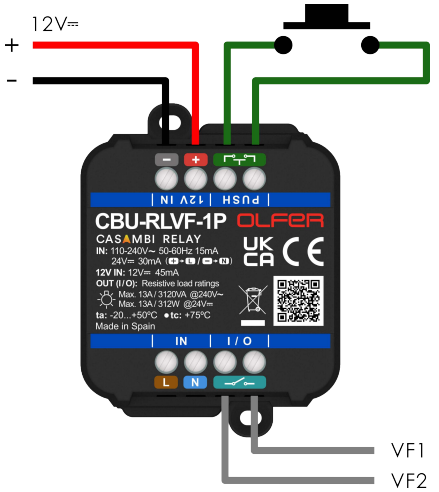
https://www.olfer.com/olfer-cbu-rlvf-1p.html

## Technical data

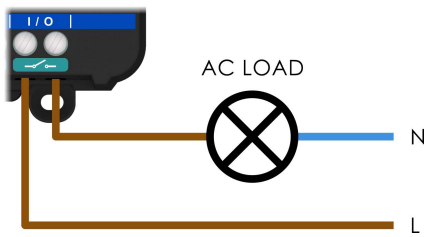
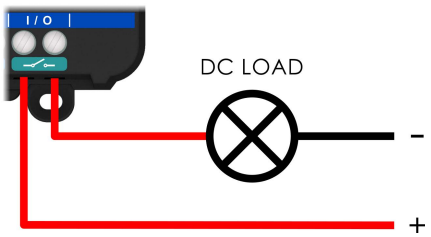
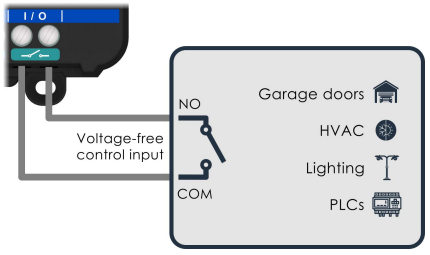
| CBU-RLVF-1P | | | | |
|---|---|---|---|---|
| **Power supply mode** | | AC | DC (24V) | DC (12V) |
| **Nominal input voltage** | | 110 … 240 Vac | 24 VDC | 12 VDC |
| **Input voltage range** | | 99 … 264 Vac | 21,6 … 26,4 VDC | 10,8 … 13,2 VDC |
| **Input frequency** | | 47 … 63 Hz | - | - |
| **Input current** | | ≤ 20 mA | ≤ 30 mA | ≤ 45 mA |
| **Power consumption** | | ≤ 0,85W | ≤ 0,85W | ≤ 0,75W |
| **Standby power consumption** | | < 0,25W | < 0,25W | < 0,20W |
| **Max. load** | **Incandescent or mains halogen lamps** | 13 A | | |
| | **LED lamps and drivers** | 6 A | | |
| | **High frequency fluorescent lamps** | 6 A | | |
| | **Electronic or wire wound transformers** | 6 A | | |
| | **Motors (cos φ > 0,4)** | 3 A | | |
| | **Max. inrush current** | 120 A (20mS) | | |
| | **Max. voltage** | 240 Vac / 24 VDC | | |
| **Control output** | | Voltage-free contact output (normally open relay) | | |
| **Push button input** | | Normally open push button (N.O.) | | |
| **RF** | **Communication interface** | Bluetooth Low Energy (BLE) 4.0 / 5.0 | | |
| | **Communication protocol** | Casambi | | |
| | **Operating frequencies** | 2402–2483 MHz | | |
| | **Max. transmission power** | +7 dBm | | |
| **Firmware update** | | OTA (Over The Air) | | |
| **Protections** | | Line permanent over voltage (non-replaceable fuse), line surge over voltage, over temperature. | | |
| **Operating temperature range** | | -20°C … +50°C | | |
| **Operating relative humidity range** | | 0 … 80% non-condensing | | |
| **Connector** | | Screw terminals (Max. torque: 4 Lb.In / 0,5 Nm) | | |
| **Wiring** | **Solid size** | 0,2 … 3,3 mm2 / 30 … 12 AWG | | |
| | **Stranded size** | | | |
| | **Wire strip length** | 6,5 mm | | |
| **IP** | | IP20 | | |
| **Enclosure material** | | Plastic (UL94-V0) | | |
| **Dimensions and weight** | | 44 x 57 x 25 mm / 50gr | | |
| **Single box** | | 55 x 68 x 35 mm / 0,065 kg | | |
| **Packing** | | 160 units per box / 34 x 31,5 x 23 cm / 10,8kg | | |
| **Standards** | | EN 60669-2-1:2022, EN 61000-3-2, EN 61000-3-3, EN 301489-1, EN 301489-17, EN 300328 | | |
| **Directives** | | (LVD) 2014/35/UE, (EMC) 2014/30/UE, (RED) 2014/53/UE, (RoHS) 2011/65/UE, (REACH) 1907/2006. | | |

## Wiring diagram

- Power supply (3 different modes):

| 110-240 VAC | 24 VDC | 12 VDC |
|---|---|---|
|  |  |  |

- Load type (application examples):

| AC load | DC load | Volt-free input |
|---|---|---|
|  |  |  |

## Installation instructions

Make sure that the mains voltage is switched off when making any connections. Use 0,2 - 3,3 mm2 solid or stranded conductor electrical wires. Strip the wire 6,5mm from the end.

Insert the wires to the corresponding holes and tighten the connector screw. Max. torque is 4 Lb.In / 0,5 Nm. Make sure to connect the inputs and outputs correctly.

The technical data table provides the maximum controllable current value according to the load type, as well as the maximum inrush current and voltage values allowed by device's output contact. Make sure that the current consumption, inrush current and voltage of the load connected to the device do not exceed the specified values.

"I/O" terminals marked with the symbol "⊸" refer to the terminals of the volt-free contact of the internal relay. Therefore, the connection of the VF1 and VF2 signals shown in the wiring diagrams is independent of the power supply mode used.

If 24 VDC power supply mode is used, ensure that the input power positive is connected to the "L" terminal and the input power negative to the "N" terminal. If the 12VDC power supply mode is used, make sure to use the dedicated power input labelled as "12V IN," following the polarity indicated on the device marking. Incorrect connection of the power inputs could damage the device.

PUSH input is marked with "⏎" symbol. The recommended maximum wiring distance between the push button and terminals is 100 meters (in installations with strong electromagnetic interference, shielded cable may be required). Push button input is designed exclusively for connecting a normally open push button. Make sure not to connect live parts to the PUSH terminals.

CBU-RLVF-1P is a built-in device and it is intended to be integrated into a lighting fixture. Device protection against accidental contact of the active parts must be ensured by an additional enclosure (e.g. luminaire).

If you install CBU-RLVF-1P into a heat sensitive environment (i.e inside a luminaire or in a ceiling outlet box above a luminaire), make sure that the ambient temperature does not exceed the specified maximum value. The device shouldn't be covered by insulators such as rock wool.

CBU-RLVF-1P, as any other Casambi product, should not be placed in a metal enclosure or next to large metal structures. Metal will effectively block radio signals which are crucial to the operation of the product.

When the product is mounted inside a metal case (e.g. integrated into a metal light fixture), a cut-out around the antenna may be needed for allowing the RF signal to exit the structure. The cut-out area should be as large as possible. Also the device should be placed as far away from any vertical structures as possible.

Also mains wires should be placed as far as possible from the antenna area. CBU-RLVF-1P's antenna is located on the right side of the device (below location marked in yellow):

Effective range is also highly dependent on the surrounding and obstacles, such as walls and building materials. It is strongly recommended to perform thorough connectivity testing on-site.

When the device is installed and powered, it can be configured and paired to a network using Casambi App. Unpaired devices will appear in nearby devices list of Casambi App. Select the most suitable fixture profile for the application before pairing CBU-RLVF-1P to a network. The updated fixture profiles list is available at the product webpage.

If the device is already paired to a network for which you don't have credentials and you wish to pair it to a new network, please go to "Nearby devices"->Tap on device's icon-> Tap "Unpair device". Once the unpairing sequence has started, switch off the mains power supply and switch it on again within 1-2 seconds. If you do the procedure too quickly, the unpairing may not work properly. Repeat the unpairing sequence, allowing an extra 1 or 2 seconds to pass between the instant in which the mains power supply is switched off and on again. A second method to unpair the device is to connect a normally open push button to any of the push button inputs of the CBU-RLVF-1P and during the unpairing procedure press the button.

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