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Wireless system  
**F&Wave**

## FW-LED2D

### Two-channel LED controller

### 12 V DC

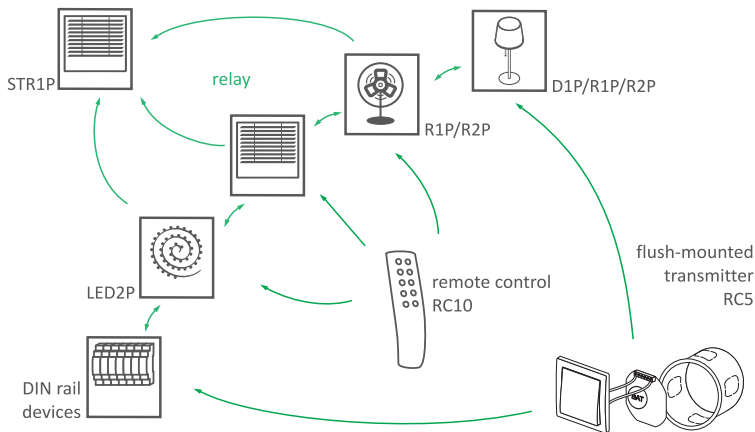


**Do not dispose of this device to trash with other unsorted waste!** In accordance with the Waste Electrical and Electronic Equipment Act any household electro-waste can be turned in free of charge and in any quantity to a collection point established for this purpose, as well as to the store in the event of purchasing new equipment (as per the old for new rule, regardless of brand). Electro-waste thrown in the trash or abandoned in the bosom of nature pose a threat to the environment and human health.



### Description of the system

F&Wave is a family of wireless devices controlled by radio with a range of up to 100 meters\*. The receivers are available in either a DIN-rail mounting version (housing 1S) or a Ø60 flush-mounted version. The transmitters are available as handheld remote controllers or as a flush-mounted version. The receivers relay control signals. The device that receives a control signal from the transmitter will automatically send it forward, which allows to increase the range of the remote control.



\* Range of up to 100 meters in open space without any interfering factors. In building conditions and in the presence of interference sources (power lines, transmitters, etc.) the actual range may be smaller.



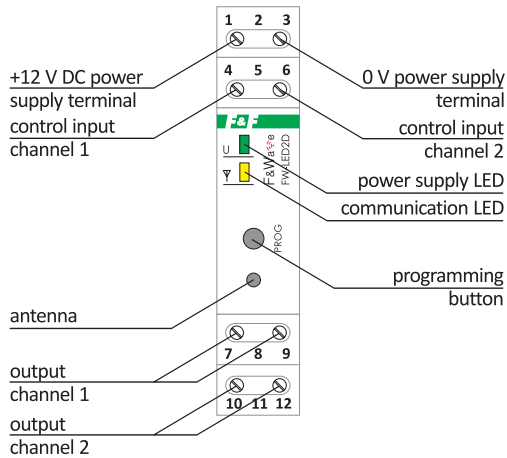
Installation of this device should be carried out by a qualified installer after reading this manual. Dismantling the casing of the device will automatically void the warranty. Before starting the assembly, make sure that the connecting wires are not live. Conditions of storage, transport and use affect the proper operation of the device.

## Features of the module

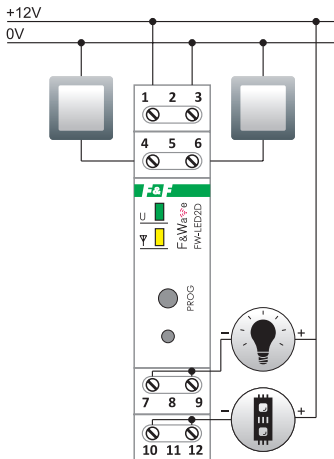
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- ◆ Two-channel LED controller 12 V DC;
- ◆ Cooperation with remote control transmitters of the F&Wave system;
- ◆ The ability to control from up to 8 transmitters;
- ◆ Two local control inputs - the ability to directly control the lighting using any mono-stable buttons (for example: bell buttons);
- ◆ Możliwość sterowania paskami LED 12V, ściemnianymi żarówkami LED 12V;
- ◆ Soft start - smooth lighting switching (on/off);
- ◆ Compact enclosure - takes only one field in the switchboard;
- ◆ Retransmission of commands from the transmitter - the ability to increase the range of the remote control;
- ◆ Low power consumption - low operating cost;
- ◆ Built-in electronic thermal protection to prevent damage in case of excessive load of the dimmer.

## Description of the device



## Connection



- 1 - +12 V DC power supply
- 3 - 0 V power supply
- 4 - control input - channel 1
- 6 - control input - channel 2
- 7/9 - output-lighting - channel 1
- 10/12 - output-lighting - channel 2



Control inputs do not cooperate with backlit buttons.

## Load capacity

2× 6 A/12 V DC

The actual maximum load depends on the nature and design of the receiver.

For more information visit: [www.fif.com.pl](http://www.fif.com.pl).



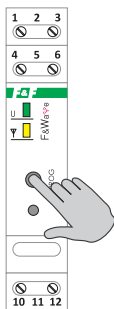
Light bulb or the packaging of the light bulb must be clearly marked with a symbol or description explicitly indicating that the bulb is designed to work with dimmers.

## Pairing



Each channel of the receiver is independently paired.

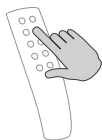
①



After proper connection, press and hold the PROG button until the circuit of the first channel will switch on and the communication LED will go off.

To select a second channel for pairing, hold the programming button again until the circuit of the second channel switches on.

②



Press the selected button on a remote control or in a flush-mounted transmitter.

③

Correct pairing will be confirmed by temporary switching off of the output circuit and the LED will turn on again.



Each channel of the receiver can be paired with eight different transmitters (remote buttons). Pairing with more buttons will remove the first entries made.

## Unpairing

To clear the list of transmitters cooperating with the receiver, press the PROG button and hold it down for at least 10 seconds. Fast flashing of communication LED will indicate that the memory of the controller has been cleared.

## Local buttons

Short press of a button switches on/off the lighting on the last set brightness level. Long press of a button (longer than 1 second) increases the brightness level (in a jump of 10%). Another long press of a button decreases the brightness level.

## Remote buttons

The FW-RC4, FW-RC10 transmitters operate on the principle of a bistable switch: one press of a button activates the relay; the second press of button deactivates the relay. Long press of a button (longer than 1 second) increases the brightness level (in a jump of 10%). Another long press of a button decreases the brightness level.

The FW-RC5 transmitter also has separate inputs ON (always ON) and OFF (always OFF).



Due to the nature of transmission and retransmission do not use the same button in transmitter more often than every 2 seconds. Switching of the receiver may be carried out with a short delay.



We do not recommend the use of remote bistable transmitters to control a group of receivers due to the possibility of desynchronization of the activation state (especially when operating on larger distances and/or simultaneous use of local buttons on the receivers).



Activation of the thermal protection is indicated by a steady pulsing of communication LED, switching off of the output circuit and the lack of its reactivation possibility. After lowering the temperature to a safe value the output circuit will remain switched off until restarted.

## Devices of the F&Wave system

| Transmitters           | Receivers                  | Box Ø60  | DIN rail |
|------------------------|----------------------------|----------|----------|
| <b>flush-mounted</b>   | Single relay               | FW-R1P   | FW-R1D   |
| FW-RC5                 | Double relay               | FW-R2P   | FW-R2D   |
| <b>remote controls</b> | Universal dimmer           | FW-D1P   | FW-D1D   |
| FW-RC4                 | Roller blind controller    | FW-STR1P | FW-STR1D |
| FW-RC10                | Two-channel LED controller | FW-LED2P | FW-LED2D |

## Technical data

|                         |                                     |
|-------------------------|-------------------------------------|
| power supply            | 10÷16 V DC                          |
| control input           | 10÷16 V DC; <3mA                    |
| power consumption       |                                     |
| operating mode          | 0.40 W                              |
| standby                 | 0.25 W                              |
| output load capacity    | 2× 6 A / 12 V DC                    |
| radio frequency         | 868 MHz                             |
| working temperature     | -25÷65°C                            |
| terminal                | 2.5 mm <sup>2</sup> screw terminals |
| tightening torque (max) | 0.4 Nm                              |
| mounting                | TH-35 mm rail                       |
| dimensions              | 1 module (18 mm)                    |
| ingress protection      | IP20                                |

## Warranty

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F&F products are covered by a 24 month warranty from the date of purchase.

The warranty is effective only with a proof of purchase.

Contact your dealer or directly with us.

For more information on the procedure for submitting a warranty claim visit our web-page: [www.fif.com.pl/reklamacje](http://www.fif.com.pl/reklamacje)

## Compliance with the standards

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PN-EN 60669, PN-EN 60950, PN-EN 55024, PN-EN 61000,

PN-ETSI EN 300 220-1, PN-ETSI EN 300 220-2,

PN-ETSI EN 301 489-1, PN-ETSI EN 301 489-3.

CE declaration of conformity is available for download at: [www.fif.com.pl](http://www.fif.com.pl).

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