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Wireless system  
F&Wave

**FW-D1D**  
Universal dimmer  
230 V AC



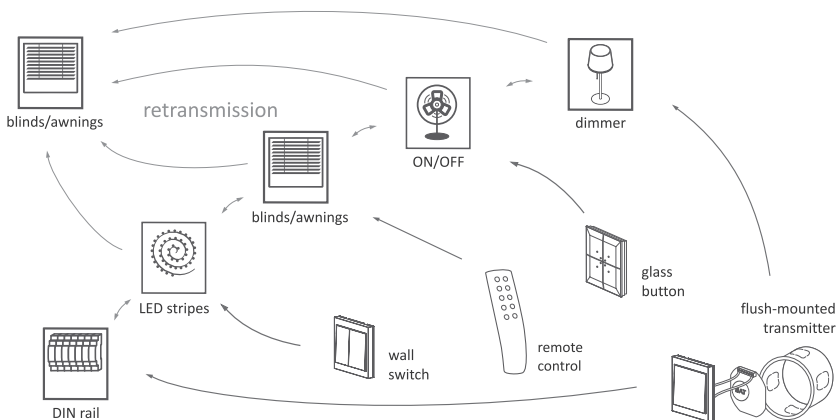
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**Do not dispose of this device to trash with other unsorted waste!** In accordance with the Waste Electrical and Electronic Equipment Act any household electro-waste can be turned in free of charge and in any quantity to a collection point established 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  $\varnothing 60$  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.

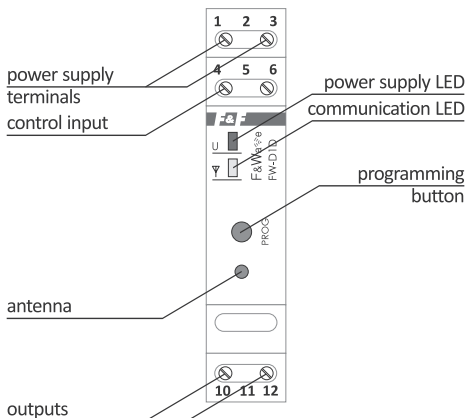


Installation of this device should be carried out by a qualified installer after reading this manual. Dismantling the casing of the device will automatically void the warranty. Before starting the assembly, make sure that the connecting wires are not live. Conditions of storage, transport and use affect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

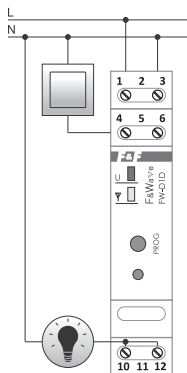
## Features of the module

- ♦ Universal dimmer 230 V AC (works with dimmable light bulbs);
- ♦ Cooperation with remote control transmitters of the F&Wave system;
- ♦ The ability to control from up to 8 transmitters;
- ♦ Local control - the ability to directly control the dimmer using any monostable button (for example: bell button);
- ♦ Soft start - smooth lighting switching (on/off);
- ♦ Compact enclosure - takes only 1 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



## Wiring diagram



- 1 – L power supply
- 3 – N power supply
- 4 – control input triggered with level L or N
- 10/12 – output –lighting



Control input does not cooperate with backlighted buttons.

## Load capacity

250 W ( $\cos \varphi=1$ )

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

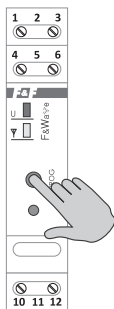
For more information visit: [www.fif.com.pl](http://www.fif.com.pl).



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.

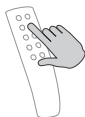
## Pairing

①



After proper connection, press and hold the PROG button until the relay will switch on and the communication LED will go off.

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.



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

### Battery transmitters

| Type                               | Product                   |
|------------------------------------|---------------------------|
| Flood sensor                       | FW-FS1                    |
| Remote control                     | FW-KEY, FW-RC4, FW-RC10   |
| Wall button                        | FW-WS1, FW-WS2, FW-WS3    |
|                                    | FW-WSO1, FW-WSO2, FW-WSO4 |
| Flush-mounted box $\varnothing 60$ | FW-RC5                    |

### AC transmitters

| Type                               | Product                |
|------------------------------------|------------------------|
| Flush-mounted box $\varnothing 60$ | FW-GS1, FW-GS2, FW-GS4 |
|                                    | FW-RC4-AC              |

## Devices of the F&Wave system cont.

| Receivers   |                         |            |
|---|-------------------------|------------|
| Function  | Flush-mounted box ø60   | DIN rail   |
| Correct operation of LED light bulbs with devices of the FW-...-NN series | FW-BYPASS-NN            | ---        |
| Universal dimmer  | FW-D1P                  | FW-D1D     |
| 2-channel LED controller  | FW-LED2P                | FW-LED2D   |
| Single relay  | FW-R1P                  | FW-R1D     |
| Single multifunction relay  | FW-R1P-P,<br>FW-R1-P-NN | FW-R1D-P   |
| Double relay  | FW-R2P                  | FW-R2D     |
| Double multifunction relay  | FW-R2P-P,<br>FW-R2P-NN  | FW-R2D-P   |
| Roller blind controller   | FW-STR1P                | FW-STR1D   |
| Roller blind multifunction controller                                     | FW-STR1P-P              | FW-STR1D-P |

### Technical data

|                                 |                                     |
|---------------------------------|-------------------------------------|
| power supply                    | 85÷265 V AC/DC                      |
| control input                   | 85÷265 V AC/DC; <1 mA               |
| power consumption               |                                     |
| operating mode                  | 0,40 W                              |
| standby                         | 0,25 W                              |
| output load capacity            | 250 W (cos φ=1)                     |
| radio frequency                 | 868 MHz                             |
| maximum emitted frequency power | 10 mW                               |
| working temperature             | -25÷65°C                            |
| terminal                        | 2.5 mm <sup>2</sup> screw terminals |
| tightening torque (max)         | 0.4 Nm                              |
| mounting                        | on TH-35 rail                       |
| dimensions                      | 1 module (18 mm)                    |
| ingress protection              | IP20                                |

## Warranty

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.

## CE declaration

F&F Filipowski L.P. declares that the device is in conformity with the essential requirements of Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC. The CE Declaration of Conformity, along with the references to the standards in relation to which conformity is declared, can be found at [www.fif.com.pl](http://www.fif.com.pl) on the product page.

## Compliance with the standards

PN-EN 55024:2011  
PN-EN 60669-1:2006  
PN-EN 60669-2-2:2008  
PN-EN 62368-1:2015-03  
PN-ETSI EN 300 220-1 V3.1.1:2017-08  
PN-ETSI EN 300 220-2 V3.1.1:2017-08  
PN-ETSI EN 301 489-1 V2.1.1:2017-08  
PN-ETSI EN 301 489-3 V1.6.1:2014-03