# Wireless Actuator Heating/Cooling Relay FHK61-230 V



#### FHK61-230 V



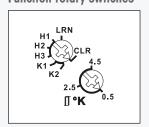






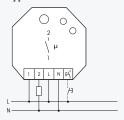


## **Function rotary switches**



Standard setting ex works.

#### **Typical connection**



## 1 NO contact potential free 10A/250V AC. Only 0.8 watt standby loss. Encrypted wireless, bidirectional wireless and repeater function are switchable.

For installation. 45 mm long, 45 mm wide, 33 mm deep.

Supply voltage 230 V.

If a power failure occurs, the switching state is retained. If a power failure occurs repeatedly, the device is switched off in a defined sequence.

By using a bistable relay coil power loss and heating is avoided even in the on mode. After installation, wait for short automatic synchronisation before the switched consumer is connected to the mains.

This heating/cooling relay evaluates the information from wireless temperature controllers or sensors. Possibly supplemented by window/door contacts, motion detector, window handle sensor FFG7B-rw and wireless pushbuttons.

Valves will be controlled with the potential-free contact.

Starting in production week 11/14, you can teach in encrypted sensors. You can switch on bidirectional wireless and/or a repeater function.

Each function change by a wireless temperature controller (normal mode, setback, off) is confirmed by a wireless telegram. This wireless telegram can be taught-in into the GFVS soft-

#### Upper rotary switch for operating modes:

**H1:** Heating operation with PWM control at T = 4 minutes (PWM = pulse width modulation). (suitable for valves with thermoelectric valve drive)

**H2:** Heating operation with PWM control at T = 15 minutes.

(suitable for valves with motor-driven valve drive)

**H3:** Operating mode with 2-point control.

**K1:** Cooling operation with PWM control at T = 15 minutes.

**K2:** Cooling mode with 2-point control.

Switchover is visualised by LEDs flashing.

### Lower rotary switch for adjustable hysteresis and PWM influence:

Left stop: lowest hysteresis 0.5°. Middle position: hysteresis 2.5°. Right stop: largest hysteresis 4.5°. Inbetween, divisions in steps of 0.5° visualised by LEDs flashing.

Two-point control mode: The hysteresis rotary switch sets the required difference between the switch-on and switch-off temperatures. When the 'actual temperature' >= reference temperature', the device is switched off.

When the 'actual temperature <= (reference temperature - hysteresis)', the device is switched on.

The signs are the opposite in cooling mode.

PWM control mode: The hysteresis rotary switch set the required temperature difference at which the device is switched on at 100%. When the 'actual temperature >= reference temperature', the device is switched off.

When the 'actual temperature <= (reference temperature - hysteresis)', the device is switched on at 100%. If the 'actual temperature' lies between the 'reference temperature - hysteresis' and the 'reference temperature', the device is switched on and off with a PWM in steps of 10% depending on the temperature difference. The lower the temperature difference, the shorter the switch-on time. As a result of the settability of the 100% value, the PWM can be adapted to the heater size and inertia. The signs are the opposite in cooling mode.

In heating mode, the frost protection function is always enabled. As soon as the actual temperature drops below 8°C, the temperature is controlled in the selected operating mode to 8°C.

If one or several windows are open, the output remains off provided the window/door contacts FTK or window handle sensors **FFG7B-rw** are taught-in. In heating mode, however, the frost protection remains enabled.

As long as all taught-in motion detectors FBH detect no motion, the device is switched to setback mode. In heating mode, the reference temperature is set back by 2°; in cooling mode, it is raised by 2°. As soon as a motion detector signals movement again, the device is switched to normal mode.

When a wireless pushbutton FT4 is taught-in, the assignment of the 4 keys is assigned with the following fixed functions: Top right: Normal mode (can also be enabled by timer). Bottom right: Night setback mode by 4°; in cooling mode, raised by 4° (can also be enabled by timer). Top left: Setback mode by 2°, in cooling mode, raised by 2°. Bottom left: Off (in heating mode, frost protection enabled; in cooling mode permanent off). If the motion detector and wireless pushbutton are taught-in at the same time, the last telegram received is always the one that is valid. A motion detector therefore switches off a setback mode selected by wireless pushbutton when a movement is detected.

The LED performs during the teach-in process according to the operating instructions. It shows wireless control commands by short flickering during operation.

Technical data page T-3.

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