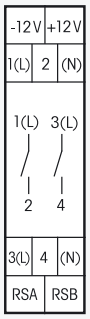
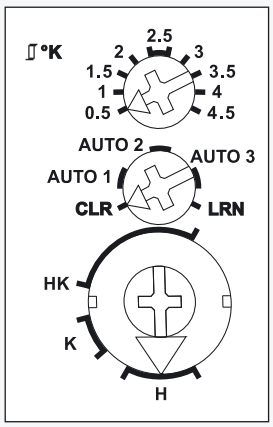
RS485 Bus Switching Actuator
Heating/Cooling Relay FHK12

FHK12-12 V DC



Function rotary switches



Standard setting ex works.

1+1 NO contacts potential free 4 A/250 V AC, 2 channels, with DX technology. Only 0.1 watt standby loss.

Modular device for DIN-EN 60715 TH35 rail mounting. 1 module = 18 mm wide, 58 mm deep.
State-of-the-art hybrid technology combines advantages of nonwearing electronic control with high capacity of special relays.

Connection to the Eltako RS485 bus, terminals RSA and RSB.
Up to a total of 128 actuators can be added in this way.

Patented Eltako Duplex technology (DX) allows you to switch normally potential free contacts in zero passage switching when 230 V A/C voltage 50 Hz is switched. This drastically reduces wear. To achieve this, simply connect the N conductor to the terminal (N) and L to 1(L) and/or 3(L). This results in an additional standby consumption of only 0.1 watt.

The 12 V DC supply voltage of the complete RS485 bus is mainly powered at 6 W, 12 W or 24 W by a switch mode power supply unit SNT12-12 V DC that is only 1 or 2 pitch units wide. When both relays of the FHK12 are switched on, 0.5 watts are required.

This heating/cooling relay assesses information about wireless temperature controllers or sensors. Possibly supplemented by window/door contacts, motion detectors, Hoppe window handles and wireless pushbuttons.

Top rotary switch for adjustable hysteresis:

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

Middle rotary switch for regulation types:

AUTO 1: With PWM control at T = 4 minutes. (PWM = pulse width modulation). (suitable for valves with thermoelectric valve drive)

AUTO 2: With PWM control at T = 15 minutes. (suitable for valves with motor-driven valve drive)

AUTO 3: With 2-point control.

Bottom rotary switch for operating modes:

H: heating mode (Contacts 1-2 and 3-4); **K:** cooling mode (Contacts 1-2 and 3-4);
HK: heating mode (Contact 3-4) and cooling mode (Contact 1-2)

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 Hoppe window handles** 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 below the upper function rotary switch performs during the teach-in process according to the operation manual. It shows control commands by short flickering during operation.

Connection example page **4**-0. Technical data, see page **T**-0. Housing for operating instructions GBA12 page **Z**-4.

FHK12-12V DC	RS485 bus switching actuator	EAN 4010312302323	**43,40 €/pc.**

Recommended retail prices excluding VAT.