

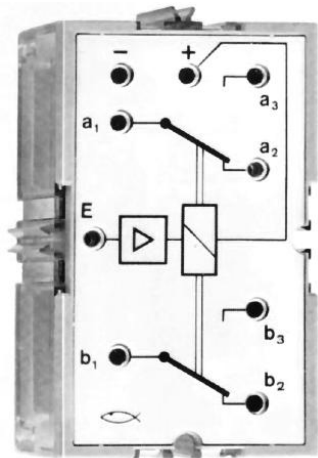
fischertechnik h4 RB

RELAY

Electronic-Module

Order No. 30812





Technical Data:

Rated operating voltage (supply voltage)	9 Volt DC $\pm 20\%$
Power consumption: relay activated	70mA
Input threshold resistance: Pull in	20k Ω
Drop out	35k Ω
Contact rating:	1000mA, resistive
	700mA, inductive
Switching power:	30 Watt
Switching frequency:	50 / sec.
Operating temperature:	70°C
Pull in - time:	6ms
Drop out - time:	12ms
Mechanical life (switching operations):	$\approx 2 \times 10^8$

This relay module corresponds to the module of the same name in the electronic kit ec and in the hobby 4 construction kit.

In contrast to the "hobby 3" relay (named e-m5), this relay has an electronic amplifier which is designed to allow the relay to react to very small currents, such as are available, at the outputs of the electronic technology basic modules or the fischertechnik flip-flop or mono-flop modules, etc.

The power supply for this unit is automatically connected by attaching the unit to a rectifier or other module and inserting the enclosed red connector. The "voltage" is then available at the "+" and "-" sockets of the relay module.

If the "E" input is connected to "-", the relay will operate. This is also the case if a resistance between "E" and "-" is less than 20k Ω in value. For direct control of the relay, a photo-resistor or a suitable positive or negative thermistor is suitable. This relay module may also be controlled via the output from any electronic basic module.

The relay module in Figure 1 also serves as an interfacing element for switching motors, magnets and lamps in electronic logic circuits. Electronic components, AND or OR modules, mono and flip-flops and dynamic AND units are available for logic control.

The operation of the relay module is best understood from the perspective of the operating input. The following applies.

The following signal definitions apply to the relay module and to the entire fischertechnik electronics system:

- 0-Signal = the corresponding socket carries the Voltage $V \geq 3V$
- 1-Signal = the corresponding socket carries the Voltage $V \leq 2V$
- dynamic
1-Signal = Signal change from "0" to "1", e.g. Switching from "+" to "-" ("0"- "1" transition)

When the relay is in the rest position, socket a_1 is connected with a_2 and b_1 with b_2 (refer to the circuit diagram). If the relay is activated, these connections are broken and connections a_1 to a_3 and b_1 to b_3 are established.

The circuit diagram of the relay module, the theoretical explanations and numerous suggestions for its use can be found in the hobby experiment and model books, volumes 4-1 / 4-2 / 4-3.

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