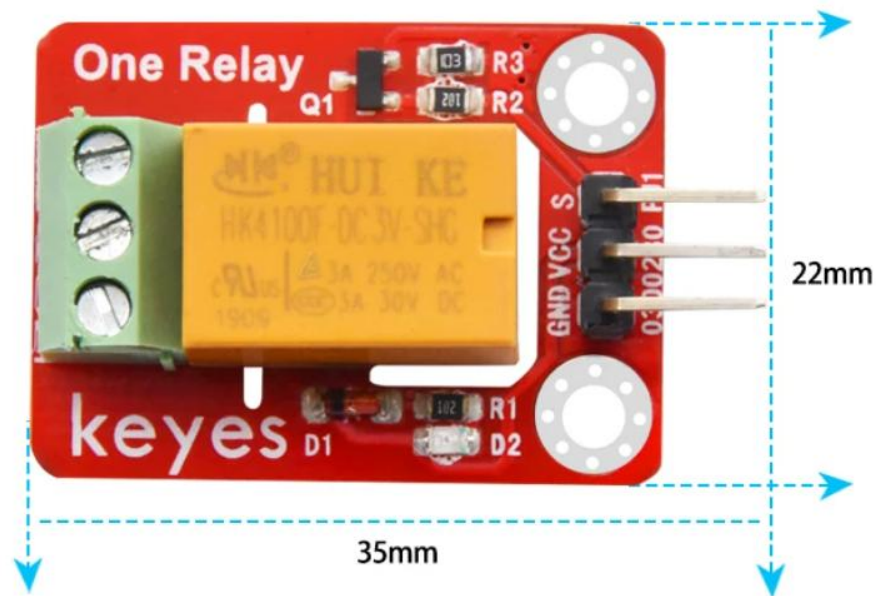


3V One Opto-Isolated Relay Module



This is a widely used single-channel relay module equipped with the HK4100F-DC 3V-SHC relay component. It is commonly deployed in automation control circuits, where it controls high-current loads with small control current to realize automatic regulation, circuit safety protection and signal switching functions. The module is fitted with 3 green screw terminal blocks marked NO, COM and NC on the PCB silkscreen on the reverse side. When no control signal is supplied to the relay, the COM terminal is electrically connected to the NC terminal, while the COM terminal remains disconnected from the NO terminal. For wiring control: Connect GND to the microcontroller's GND pin, VCC to the MCU's 3.3V power pin, and S to any digital I/O pin of the microcontroller. When the S signal pin outputs a high level, the relay energizes, and the COM terminal connects to the NO terminal. When the S pin outputs a low level, the relay de-energizes, and the COM terminal reverts to connection with the NC terminal. Additionally, the PCB features two 3mm-diameter mounting holes to facilitate secure installation onto other equipment.

Key Features

- Operating Voltage: DC 3.3V
- Rated Current: 50–120mA
- Coil Impedance: 25–60 Ω
- Mechanical Lifespan: 100,000 cycles (no load)
- Electrical Lifespan: 100,000 cycles at rated voltage (3A/250VAC, $\cos\phi=1$; 3A/30VDC)
- Max Switching Frequency: 30 times/min (electrical), 300 times/min (mechanical)

- Insulation Resistance: $\geq 100\text{M}\Omega$ @ 500VDC applied
- Contact Load: 3A 250VAC / 3A 30VDC
- Operating Temp Range: -15°C to $+60^{\circ}\text{C}$
- Connector: 3-pin 2.54mm pitch pin header
- Trigger Mode: High level trigger

Pin Label	Function Description
GND	Control signal ground, connect to MCU GND
VCC	Module power supply, must connect 3V/3.3V
S	Signal input pin;

Notes

- Do not exceed the relay's rated current and voltage to protect the module.
- Wire terminals strictly according to their labels.
- Keep the module within the operating temperature range and avoid overheating.