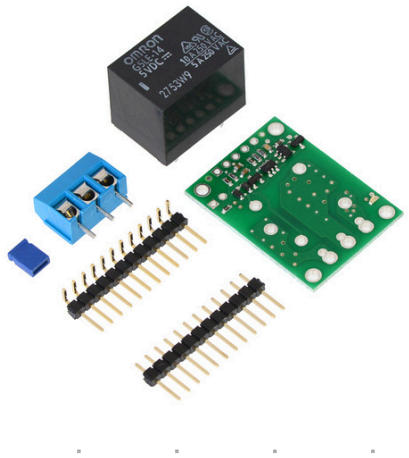
Pololu RC Switch with Relay (Partial Kit)



Pololu item #: 2805
Brand: Pololu supply outlook
Status: Active and Preferred
RoHS 3

Price break	Unit price (US$)
1	10.95
5	10.07
25	9.27
100	8.53

Quantity: 1 Add to cart
backorders allowed Add to list

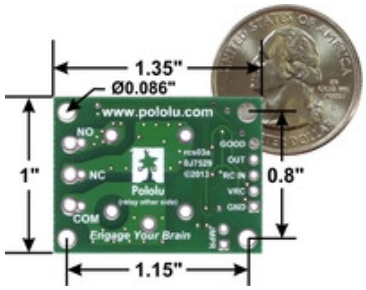
This RC relay enables easy control of large, electrically isolated loads in radio control (RC) systems. The activation threshold and direction are configurable, and a safe-start feature reduces the likelihood of unexpected activation. This partial-kit version includes the printed circuit board along with a 5V relay, terminal block, 0.1″ male headers in straight and right-angle versions, and a shorting block. Surface-mount components are pre-assembled on the PCB, but the through-hole components are not installed and require soldering. The included power relay is an Omron G5LE-14-DC5 and is rated for up to 10 A under most conditions.

Alternatives available with variations in these parameter(s): partial kit? **Select variant…**

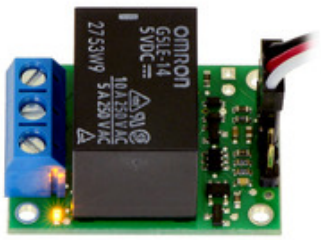
or .

Description **Specs (5)** **Pictures (7)** **Resources (6)** FAQs (0) **On the blog (2)** **Distributors (2)**

Overview



This product consists of a single-pole, double-throw (SPDT) power relay and a control circuit that measures incoming radio control (RC) signals, making it easy to control large, electrically isolated loads in RC systems. Example applications include using extra channels on an RC receiver or servo controller to turn on lights, motors, or irrigation valves. The RC switch is available pre-soldered or as a partial kit that allows for greater application flexibility:



Alternatives available with variations in these parameter(s): partial kit? **Select variant…**

The RC switch measures the width of incoming RC pulses and compares it to a user-configurable threshold (with ±64 µs of hysteresis) to decide whether to activate the relay. By default, the threshold is approximately 1700 µs, with switch activation occurring above the threshold (longer pulses), but the switch has a learning mode that allows you to change the threshold and the activation direction. A safe-start feature reduces the likelihood of unexpected activation.

We generally recommend using a 4- or 5-cell NiMH or NiCD battery pack to power the switch. The battery pack will typically be connected to an RC receiver or **servo controller**, which passes the power on to the RC switch.

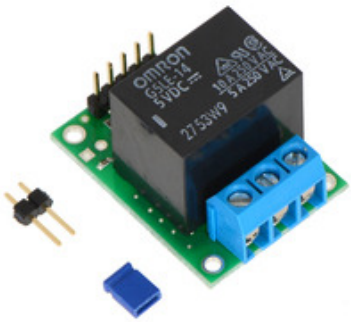
The included relay is an **Omron G5LE-14-DC5** (1MB pdf) and is rated for up to 10 A under most conditions.

Included hardware

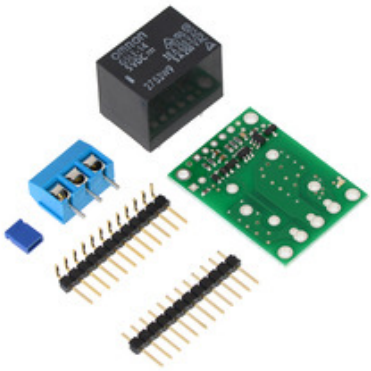
The Pololu RC Switch with Relay is available in two versions:

- The **assembled version** ships with the 5V Omron relay, header pins, and terminal block soldered in. A 1×2-pin male header and a shorting block are also included with the assembled version and can be used to configure the device. The assembled version can be incorporated into an existing RC system without the need for any additional soldering.
- The **partial kit version** gives you the flexibility to choose different connections. It includes a 5V Omron relay, 0.1″ 12-pin male header, a 0.1″ 12-pin right-angle male header, a 3-pin terminal block, and a shorting block. These strips can be broken into smaller strips and optionally soldered to the board, or wires can be soldered directly to the board for the most compact installation.

> **Warning:** When soldering the terminal block into the partial kit version, be sure to use the *larger* set of holes. If you use the smaller holes, which are intended for 0.2″ male header pins, there will not be enough space to mount the relay.



Pololu RC Switch with Relay (Assembled) with included hardware.



Pololu RC Switch with Relay (Partial Kit).

The board has four mounting holes that work with #2 or M2 screws (not included).

Advantages over similar products

- Compact layout
- User-configurable activation threshold and direction
- Safe-start mode to reduce likelihood of unexpected activation
- Zener diode for fast current decay on relay coil
- Specification of electrical routing clearance rules on relay switch nodes (see user's guide)

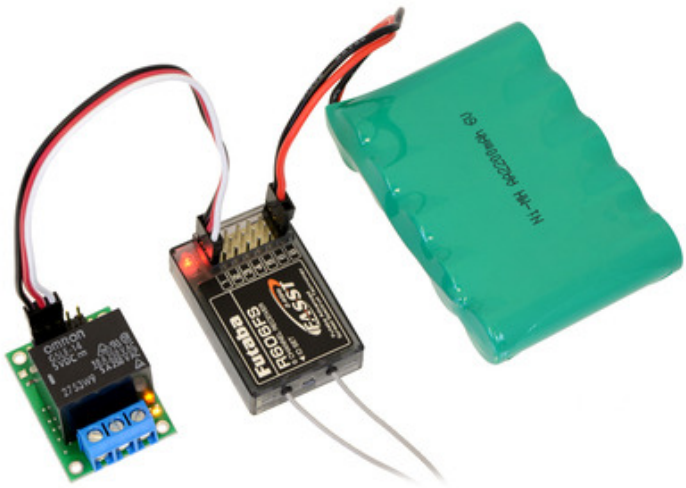
Outputs and indicator LED

The RC switch provides feedback about what state it is in via a yellow indicator LED. Status information is also provided on two output pins:

- The GOOD pin indicates the presence of a valid RC signal (10–330 Hz pulse rate, 0.5–2.5 ms pulse width).
- The OUT pin indicates whether the relay is activated (i.e. the relay coil is energized).

More information about the Pololu RC Switch with Relay can be found in the **user's guide**.

> **Warning:** This product is not designed to or certified for any particular high-voltage safety standard. Working with voltages above 30 V can be extremely dangerous and should only be attempted by qualified individuals with appropriate equipment and protective gear.



The Pololu RC Switch with Relay connected to a typical RC receiver.

Other RC switches

We offer an **RC switch with a digital output** for applications that just require a low-current digital signal, and we offer two versions of this switch with integrated MOSFETS instead of a relay: **RC switch with a small MOSFET** and **RC switch with a medium MOSFET** (the latter of which also has an integrated voltage regulator) .

The Pololu RC Switch family of products.

People often buy this product together with:

Pololu RC Switch with Digital Output

Pololu RC Switch with Small Low-Side MOSFET

Pololu RC Switch with Medium Low-Side MOSFET