



# TOUGH RELAY

## Safe power control and monitoring

Reboot routers. Monitor power consumption. Control power easily and safely from microcontroller GPIOs. The universal trigger input works just like a standard relay.

Simply connect two wires. One to ground and one to your control signal, such as a GPIO output bit on a microcontroller. No driver is required.

Need more sophistication? A serial port lets your micro monitor and control the relay over TTL or RS-232.

Want to automate? A separate USB port lets you customize the relay using a simple menu system. Control modes, view logs, set timing and more.

Scheduled reboots? No problem. A built-in clock with battery backup handles that.

Monitor AC power consumption and cost with built-in current metering, histograms and logging.

Additional ADC inputs let you monitor external devices like hall or temperature sensors.

The internal circuitry is very power efficient, using approximately 1/4W unswitched and 1.3W activated.

Applications include:

- Periodic reboot of routers, modems and IP cams
- IoT products and test equipment
- Retrofitting power metering into existing designs
- Monitoring, controlling and protecting AC motors
- Industrial control, scheduling, and automation
- Green power / energy conservation & billing
- Kiosks, vending machines and signage controls

- Combines the features of a durable power relay, current monitor, logger, power meter, delay relay, and an event scheduler in the size of a small DIN relay.
- Preconfigured to work like a standard smart relay with no setup. Add and configure additional features via a USB cable.
- The universal TTL or RS-232 interfaces let you control and read the relay from a micro.
- Integrated current monitoring creates power consumption logs. Measuring range 0.1-12A AC
- Built-in clock for creating scheduled events and logs
- Selectable delay and memory features
- Operates from 5-24VDC autosensing. Can be used to replace a 5V, 12V or 24VDC coil relay and add power monitoring and scheduling
- Switches up to 240VAC, up to 10A, or up to 72VDC. internally fused at 12A.
- Adjustable automatic safety shutdown (AC breaker)
- Durable SPDT relay mechanism with silver alloy contacts is rated at 30/40A, 400,000 operations at 12A AC resistive. At no load, the estimated lifetime is 5.3 million mechanical operations.



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