

XY-ST30 30A WiFi Remote Thermostat Temperature Controller (6–30V DC)

The **XY-ST30 30A WiFi Remote Thermostat Temperature Controller** is a powerful, compact, and intelligent temperature control module designed for modern automation, DIY electronics, and professional embedded applications. Combining **high-current relay output, wide voltage support**, and **WiFi remote control**, this module offers exceptional flexibility for controlling heating and cooling devices with precision and reliability.

Designed to operate on **6V to 30V DC**, the XY-ST30 is suitable for battery-powered systems, industrial control panels, automotive applications, solar setups, and smart home projects. Its **30A relay output** allows it to directly control high-power loads such as heaters, fans, compressors, pumps, and ventilation systems without the need for additional contactors in many installations.

Smart WiFi Control via Tuya Smart / Smart Life

One of the standout features of the XY-ST30 is its **WiFi connectivity**, which enables seamless integration with the **Tuya Smart** or **Smart Life** mobile apps. Once connected to your WiFi network, you can monitor real-time temperature data, adjust temperature thresholds, switch between heating and cooling modes, and turn outputs on or off from anywhere in the world.

This remote access capability makes the XY-ST30 ideal for applications such as greenhouses, aquariums, fermentation chambers, server cooling, poultry farms, incubators, and smart home climate control systems. Whether you are on-site or away, you remain fully in control of your temperature-sensitive equipment.

Learn more about the Tuya smart ecosystem here:

 <https://www.tuya.com>

Wide Temperature Range and Accurate Monitoring

The XY-ST30 supports a **wide temperature measurement range from –55°C to +125°C**, depending on the connected temperature sensor. This broad range ensures reliable performance in extreme environments, from cold storage systems to high-temperature industrial processes.

The **built-in digital display** provides clear, real-time temperature readings, allowing users to instantly verify system status without relying solely on a mobile device. This dual control method—local and remote—adds an extra layer of reliability and convenience.

Configurable Heating and Cooling Modes

The controller supports both **heating and cooling modes**, making it highly versatile. Users can easily configure whether the relay activates when the temperature rises above or falls below

the set threshold. Adjustable **ON** and **OFF** temperature values prevent rapid relay switching and improve system stability, extending the lifespan of connected devices.

This flexibility allows the XY-ST30 to be used for:

- Heating control (heaters, heating pads, water heaters)
- Cooling control (fans, exhaust systems, refrigeration units)
- Temperature alarms and automation logic
- Environmental control systems

High-Current Relay Output for Heavy Loads

Unlike many small thermostat modules, the XY-ST30 features a **robust 30A relay output**, enabling it to switch high-current loads directly. This makes it suitable for controlling powerful AC or DC devices (within relay specifications), reducing wiring complexity and overall system cost.

The relay is electrically isolated, enhancing safety and protecting the control electronics from load-side interference.

Compact and Installation-Friendly Design

Despite its powerful capabilities, the XY-ST30 maintains a **compact form factor**, making it easy to install inside project enclosures, electrical cabinets, DIY boxes, or embedded systems. Clearly labeled terminals simplify wiring, even for users with basic electronics experience.

Its low power consumption and durable construction make it suitable for long-term continuous operation in demanding environments.

Key Features

- **Wide Input Voltage:** 6V–30V DC for versatile power options
- **High Load Capacity:** 30A relay output for heavy-duty devices
- **WiFi Connectivity:** Remote monitoring and control via Tuya Smart / Smart Life
- **Wide Temperature Range:** –55°C to +125°C (sensor dependent)
- **Digital Display:** Real-time temperature readout on module
- **Heating & Cooling Modes:** Fully configurable logic control

- **Custom Thresholds:** Adjustable ON/OFF temperature settings
- **Remote Access:** Control and monitor from anywhere via smartphone
- **Compact Design:** Ideal for embedded, DIY, and industrial installations
- **Reliable Switching:** Stable relay operation with hysteresis control

Typical Applications

- Smart home temperature automation
- Greenhouses and indoor farming
- Aquarium and reptile habitat control
- Incubators and fermentation chambers
- Server room cooling systems
- Industrial process temperature control
- Automotive and solar-powered projects