TOUCH COMBO SMART THERMOSTAT

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DESCRIPTION

The Touch Combo has the flexibility to communicate using not one but THREE communication protocols simultaneously: Wi-Fi, BLE, and Zigbee.

Wi-Fi

Touch Combo can operate using your existing Wi-Fi access points, eliminating the need to install Zigbee coordinators. Touch Combo's design works particularly well in university housing, multi-family living, and senior living facilities, many of which have already made considerable financial investments in robust Wi-Fi infrastructure.

Zigbee

Because of its "dual chip", the Touch Combo can simultaneously communicate with the multitude of attached Zigbee-enabled devices on the market today, including Telkonet's EcoContact+, EcoSense+, and many third-party devices like door locks.

BLE

Touch Combo is Bluetooth capable, with enough memory to integrate with the latest BLE-enabled industry technology like panic systems and door locks.

Analog Output Option

The built-in output board can be replaced with a VO board (sold separately), which provides an analog output option for modulating signals such as 0-10Vdc or 2-10Vdc. This enables the Touch Combo to control modulating valves and ECM motors. This option provides two analog outputs and three binary relay outputs.

Platform

The Touch Combo can be configured to operate as part of our latest energy management platform, Rhapsody. Rhapsody provides an enterprise cloud portal for historical reviews of performance and group control of thermostat settings. The Touch Combo is also capable of working with third-party platforms, including BACnet based BMS systems and third-party systems, able to utilize REST/WebSocket APIs.

Security

Touch Combo relies on Amazon's AWS IoT as its communication vehicle because of its powerful, reliable security and identification measures. With AWS IoT, each connected device must have a credential to access the message broker or the Device Shadow service. All traffic to and from AWS IoT must be encrypted over Transport Layer Security (TLS).

Device credentials must be kept safe in order to send data securely to the message broker. AWS Cloud security mechanisms protect data as it moves between AWS IoT and other devices or AWS services
Touch Combo offers two operating modes: Independent and Integration

Independent Mode

The Independent Mode is well suited for MDUs (multi-dwelling units) and condo buildings. It operates with a direct Wi-Fi connection to the Internet.
Tenants can configure and control their Touch Combo thermostats from wherever they are using the Rhapsody mobile app, available for iOS and Android. Property managers have ultimate settings control with their own Rhapsody enterprise management portal access.
Property managers can ensure constant connectivity because Touch Combo offers failover from resident Wi-Fi to a property-managed Wi-Fi or permanent hidden secure Wi-Fi access. This allows management to ensure vacant units can still be controlled for optimum energy efficiency.

Integration Mode

The Integration Mode operates on an internal Wi-Fi network using MQTT for communication to a Telkonet Integrated server, which can then be used to expose thermostats' control and data over various protocols including BACnet, Google RPC, and hotel property management systems (PMS).

Features

- Three communication protocols built into every device: Wi-Fi, BLE, and Zigbee
- HVAC controller and user interface in one device (no separate HVAC controller)
- Built-in occupancy sensor
- Wireless communication with Telkonet's integration server
- 6 - 24V ac relays
- Analog Output option: three outputs, each with 24V ac signal, and 2 analog outputs, 0-10V dc signal
- Built-in humidistat and humidity-control capable
- Modern, sleek design
- Ultra-thin: only 15mm deep
- Built-in dry contact for door contacts, third party occupancy, DND systems or HVAC alarm, and more.
- Residents can control Touch Combo remotely using the Rhapsody Mobile app
- Optional control of modulating valves and ESM motors

Benefits

- Use existing Wi-Fi infrastructure access points (no need for Zigbee coordinators)
- Integrate with Zigbee-enabled and Bluetooth-enabled devices like door locks and panic buttons
- Universally compatible across a wide array of HVAC systems
- Option for analog outputs

Demand Response Capabilities

The Touch Combo thermostat supports full two-way communication over Wi-Fi using secure MQTTS. Because of this, the device can receive real-time DR signals from a utility, an integration server, or an energy-management platform. Key capabilities include:

Load-Shedding / Temperature Offset

- The thermostat can receive a DR event signal and automatically apply pre-defined temperature adjustments (e.g., +2–4°F cooling setpoint, or reduced heating setpoint).
- These offsets can be customized per program requirements.

Equipment Cycling / Duty-Cycle Control

- Supports compressor lockout windows or adjusted run-time behavior to reduce peak-period load while maintaining comfort.
- Compatible with both multiple HVAC type configurations.

Event Scheduling & Override Logic

- DR events can be scheduled centrally by the utility or EMS.
- Guests/residents may be allowed to override temporarily, depending on the setup rules.
- All overrides are logged.

Two-Way Status Reporting

- Device sends back occupancy, temperature, setpoints, HVAC runtime, and event-participation status so the EMS or utility can verify performance.
- Supports measurement & verification (M&V) requirements.

Open API / Integration Flexibility

- DR control signals can arrive via cloud-to-cloud integration or via Integration Server.
- Supports secure MQTTS on port 8883 and REST API's for direct utility integration pathways.