Submittal Data

TCS Basys Controls®

SZW123

Wireless Conventional Heating & Cooling Thermostat with Heat Pump Mode

SUPERSTAT™
Communicating Thermostats

Description

The SZW123 is a microprocessor-based programmable thermostat designed for conventional heating and cooling applications with optional heat pump mode. The SZW123 features a 7-day time clock.

The SZW123 features:
- Stand-alone or network operation
- Adjustable delay on power-up and start-up for soft starts
- P+I control option
- Smart Recovery
- No battery backup required
- Built-in HVAC equipment protection
- 32 character LCD display
- 6 status LEDs
- Remote room sensing capability
- User setpoint adjustment limits
- Local and remote override capability
- System and fan switching with access lockouts
- Equipment monitoring inputs and indication
- External time clock input
- Access to programming or schedule may be locked out or limited with the use of an access code
- Fahrenheit or Celsius temperature display
- Convertible to heat pump mode in programming
- Uses ZigBee protocol, IEEE 802.15.4 compliant
- Self-healing, "plug & play" mesh network
- 100mW output at 2.4 GHz
- 150 to 500 feet typical in building range

Specifications

General

Accuracy: +/- 1ºF at 75ºF
Display resolution: +/-1°F (0.6°C)
Display: 32-character LCD
Programming: Front panel keypad or EIA RS485 interface
Communications: RS485, half duplex
Memory backup: Non-volatile EEPROM, no battery required
Program Setting: 4 events per day with 7 days per week
Override: Programmable from 0 to 255 minutes

Radio

Ouput: 100 mW at 2.4 GHz
Protocol: Zigbee, IEEE 802.15.4 compliant
Transmission interval: 5 sec.
Antenna: Internal to Unit
Power: 24 VAC (unit transformer may be used)
Open field range:
    Gateway = 1000 ft.
    Router / Repeater = 1000 ft.
    Bridge = 1000 ft.
In building range: 150 to 500 ft. (typical range, actual range depends heavily on building structure, makeup, and layout)
Max devices: 15 wireless devices per gateway (QW1010A) or multi-bridge (QW2100)

Environmental

Operating temperature: 32 to 131°F (0 to 55°C)
Operating humidity: 0 to 100% RH, non-condensing
Storage temperature: 14 to 140°F (-10 to 60°C)

Electrical

Supply voltage: 24 VAC +/- 20%
Inputs: Built-in and remote platinum RTDs, and momentary override
    Range: Room Temp: 40 to 90°F
    (built-in or remote)
    Outdoor Air Temp: -40 to 160°F (remote)
    Discharge Air Temp: 0 to 150°F (remote)
Outputs: The SZW123 has 3 digital
(SPST dry contact, 24 VAC @ 2 A).
Common mode rejection: 100 db @ 60 Hz
Power Consumption: 8 VA max.

Specification Suggestions

Microprocessor-based room thermostats shall have a built in keypad and display for programming and scheduling, and a 7-day time clock with four setback intervals per day. Thermostats shall be of the low voltage type.

Thermostats shall have a limited temporary setpoint adjustment, definable in programming, and a local override button with remote override capability. The status of all outputs shall be monitored locally through the use of the keypad and display. An adjustable delay on power up shall be available for soft start of systems on power loss.

All system and fan switching shall be done through the microprocessor and must allow for disabling. The ability to edit operating control parameters shall be password protected via a user-definable security access code. The thermostat housing shall be off-white or white and mounted 60" above the finished floor. The keypad, unoccupied override and RS485 communications jacks shall be accessible, without requiring the removal of the housing. Thermostats must support non-volatile memory, so that in the event of power loss, all programmed operating parameters shall be unaffected without the use of battery backup. All control functions shall continue in the event of a communications failure.

Thermostats shall provide both remote wireless and local communications in accordance with Zigbee IEEE 802.15.4 and EIA RS485 standards. All firmware communications protocol and command codes shall be published, open and non-proprietary. Room thermostats shall be model SZW123 as manufactured by TCS Basys Controls.
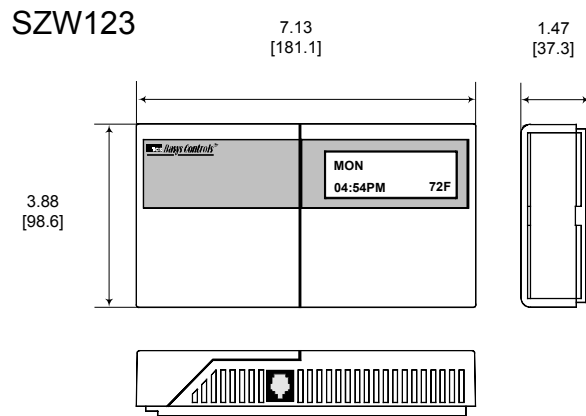
Ordering Information

Part #	Description
SZW123	Wireless Conventional Heating & Cooling Thermostat with Heat Pump Mode
	SZW123 Accessories
SZW244	Wireless input modules
TS2000	Remote sensor, room mount
TS3000	Remote sensor, room mount, decorator style

Dimensions
Note: inches [mm]

SZW123

NOTE: Specifications subject to change without notice.