



## SZ1050 Series

Programmable 365-Day  
Modulating Thermostat



## Description

The SZ1050 Series has a 365-day time clock. The SZ1051 is designed to control air handling units with modulating economizers and modulating heating or cooling. The SZ1053 controls air handling units with modulating heating and cooling.

### The SZ1050 Series features:

- Stand-alone or network operation
- 365-day time clock with one holiday schedule with automatic leap year and daylight savings correction
- Discharge air sensor input with high and low limits (and reset with the SZ1053)
- Discharge air heating low limit
- Outdoor air sensor input with heating & cooling lockouts (and economizer operation with the SZ1051)
- Two stages for heating and/or cooling
- Modulating outputs for heating and/or cooling
- Adjustable delay on power-up and start-up for soft starts
- P+I control option on digital stages
- Smart Recovery
- 32 character LCD display
- Six status LEDs
- Remote room sensing capability
- User setpoint adjustment limits
- Local override and remote override capability
- System and fan switching with access lockouts
- Auxiliary time clock output
- Fan interlock safety option
- Filter service input and indication
- Equipment monitoring inputs and indication
- External time clock input
- Energy management input for setpoint shift
- Access to programming or schedule may be locked out or limited with the use of an access code
- Fahrenheit or Celsius temperature display
- Digital enthalpy switch input for economizer enable on the (SZ1051)

## Specifications

### General

**Accuracy:** +/- 0.5%

**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:** 2 events per day with 7 days per week and 2 holiday schedules (12 periods of up to 99 days each)

**Override:** Programmable from 0 to 255 minutes

### 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, momentary override and three digital (dry contact)  
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:** Four digital (SPST dry contact, 24 VAC @ 2 A), two 4-20 mA DC analog

**Max. Load Resistance (analog output):** 600 Ω

**Common mode rejection:** 100 db @ 60 Hz

**Power Consumption:** 8 VA max.

Specifications subject to change without notice.

# Specification Suggestions

Microprocessor-based room thermostats shall have a built in keypad and display for programming and scheduling, and utilize a 365 day time clock with two 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 inputs and outputs shall be monitored locally through the use of the keypad and display. Thermostats shall support outdoor air temperature heating and cooling lockouts, fan proving, and be able to monitor filter status. Thermostats shall utilize two modulating outputs for heating and cooling, or for heating or cooling and economizer operation. An adjustable delay on power up shall be available for soft start of systems on power loss.

Thermostats shall support a setpoint shift feature in which a digital input is used to shift the heating setpoint down and the cooling setpoint up by an adjustable amount. 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 and local communications in accordance with EIA RS485 standards. All firmware communications protocol and command codes shall be published, open and non-proprietary. Room thermostats shall be model SZ1050 series as manufactured by TCS/Basys Controls.

# Ordering Information

Part #	Description
SZ1051	Programmable 365-day thermostat with modulating heating or cooling, modulating economizer output
SZ1053	Programmable 365-day thermostat with modulating heating and cooling

### SZ1050 Series Accessories

TS2000	Remote sensor, room mount
TS3000	Remote sensor, room mount, decorator style
TS1002	Remote sensor, duct mount
TS1003	Remote sensor, outdoor mount
PD Series	Differential pressure switches
PO Series	Occupancy sensors
PR Series	Encased relays
PS Series	Current switches
PT Series	Control transformers

# Dimensions

Note: inches [mm]

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