



SZ1017a

Programmable 7-Day
Modulating Thermostat



Description

The SZ1017a has a 7-day time clock and is designed for applications with modulating heating or cooling.

The SZ1017a features:

- Stand-alone or network operation
- 7-day time clock
- Discharge air sensor input with high and low limits and reset
- Discharge air heating low limit
- Midpoint or endpoint modulation
- Outdoor air sensor input with heating & cooling lockout
- Up to two stages for heating and/ or cooling and a modulating heating or cooling output
- Midpoint or endpoint modulation
- Adjustable delay on start-up and power-up for soft starts
- P+I control option on digital stages
- Smart recovery
- No backup battery required
- Minimum on/off times for HVAC equipment protection
- 32 character LCD display
- Six status LEDs
- Remote room sensing capability
- User setpoint adjustment limits
- Local and remote override capability
- System and fan switching with access lockouts
- Auxiliary time clock output (economizers)
- 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

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
- 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), one 4-20 mA DC analog
- Max. Load Resistance (analog output):** 600Ω
- 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 7 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, discharge air temperature high and low limits, fan proving, and be able to monitor filter status. Thermostats shall utilize one modulating output for heating or cooling. 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 SZ1017a as manufactured by TCS/Basys Controls.

Ordering Information

Part #	Description
SZ1017a	Programmable 7-day thermostat with modulating heating or cooling output

SZ1017a Accessories

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

Dimensions

Note: inches [mm]

SZ1017a

