# Submittal Data

**TCS Basys Controls®**

## SZ1030 Series
Programmable 365-Day Thermostat

**S U P E R S T A T** ™
Communicating Thermostats

## Description

The SZ1030 Series has a 365-day time clock. The SZ1031 and SZ1035 are designed to control conventional heating and cooling. The SZ1033 is designed for heat pumps and can be converted to conventional mode in programming.

**The SZ1030 Series features**:
- Stand-alone or network operation
- 365-day time clock with 2 holiday schedules with automatic leap year and daylight savings correction
- Discharge air sensor input with high and low limits
- Outdoor air sensor input with heating & cooling lockouts
- The SZ1031 offers up to 3 heating and 2 cooling stages, or 2 heating and 3 cooling stages
- The SZ1035 offers 2 heating stages, 2 cooling stages and 2 independently programmable stages for heating and/or cooling
- The SZ1033 offers 2 compressor stages and 2 auxiliary heat stages, with a configurable reversing valve
- Adjustable delay on power-up and start-up for soft starts
- P+I control option
- 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
**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:** The SZ1031 & SZ1033 have 7 digital (SPST dry contact, 24 VAC @ 2 A). The SZ1035 has 8 digital (SPST dry contact, 24 VAC @ 2 A max).
**Common mode rejection:** 100 db @ 60 Hz
**Power Consumption:** 8 VA max.

Specifications subject to change without notice.

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# Specification Suggestions

Microprocessor-based room thermostats shall have a built in keypad and display for programming and scheduling, and 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 discharge air temperature high and low limits, outdoor air temperature heating and cooling lockouts, fan proving, and be able to monitor filter status.  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.
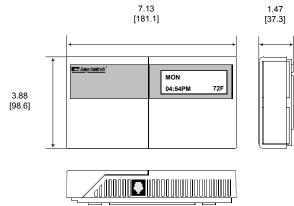
Thermostats shall provide both remote and local communications in accordance with EIA RS485 standards.  All firmware communications protocol and command codes shall be published, open and non-proprietary.  Room thermostats shall be model SZ1030 series as manufactured by TCS/Basys Controls.

# Ordering Information

| Part # | Description |
|---|---|
| SZ1031 | Programmable 365-day thermostat for conventional heating and cooling |
| SZ1033 | Programmable 365-day thermostat for heat pumps |
| SZ1035 | Programmable 365-day thermostat for conventional heating and cooling, up to 4 stages of heating or cooling for 6 stages total |

**SZ1030 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]

SZ1030 Series