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# **SpaceLogic** Thermostat TH903 for PTAC, Fan Coil, Heat Pump & Gas/Oil Furnace Applications



# **Product Description**

The TH903 Series thermostats are optimized for office building, hotel and residential terminal HVAC control.

The TH900 Series is ideal for PTAC, Fan Coil, Heat Pump and Gas/Oil Furnace applications.

This device includes a white glass display with mechanical buttons on a white base.

The TH903 Series is a wall surface mount device that is easy to operate. These thermostats feature microprocessor-based controls and large LCD screens which display operation status (cooling, heating, auto), fan speed, room temperature and set-point.

#### **Features**

- · White glass housing with mechanical buttons
- Large back-lit LCD screen
- · Eco function for energy savings
- · 7-day programmability
- · Real-time clock keeps time during power failures
- Two aux inputs for keycard/window switch and external occupancy sensor/door switch
- Non-volatile memory (EEPROM) retains user settings during power loss
- Alert function facilitates temperature sensor maintenance
- Standalone and optional Zigbee 3.0 and Modbus communication

# **Available Products**

Part Number	Application	Display	Fan Control	Occupancy	Aux. Inputs	Comm.	Programmability	Housing
TH903-P-W	PTAC: 1 Heat 1 Cool, FCU: 2/4-pipe	LCD, Positive	3-Speed, Auto	PIR	2	None	None	White
TH903-ZP-W	PTAC: 1 Heat 1 Cool, FCU: 2/4-pipe	LCD, Positive	3-Speed, Auto	PIR	2	Zigbee 3.0	None	White
TH903-ZPM-W	PTAC: 1 Heat 1 Cool, FCU: 2/4-pipe	LCD, Positive	3-Speed, Auto	PIR	2	Zigbee 3.0 & Modbus	None	White
TH903-DM-W	PTAC: 3 Heat 2 Cool	LCD, Positive	1-Speed	None	2	Modbus	7-Day	White

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## Specifications

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PTAC	Heat: max. 3 stages Cool: max. 2 stages					
FCU	2-pipe, 4-pipe					
Sensing element	Digital temperature sensor					
Accuracy	±0.5°C @ 0 to 50°C (±1°F@32 to 122°F)					
Set-point range	5 to 35°C (41 to 95°F)					
Display range	0 to 50°C (32 to 122°F)					
Display resolution	0.5°C (1°F)					
Operating temp.	0 to 50°C (32 to 122°F)					
Operating humidity	0 to 95 % RH (non-condensing)					
Storage temp.	-20 to 60°C (-4 to 140°F)					
Storage humidity	0 to 90 % RH (non-condensing)					
PIR detection	120° (±60°)					
PIR detection distance	10m at 0°, 5m at 60°, 5m at -60°					
Power consumption	Standby < 0.5W					
Power supply	AC 24V @ 50/60 Hz					
Terminal cable	14 AWG to 18 AWG solid or stranded wire					
Relay rating	3A resistive, 1A inductive					
Protection class	IP 30					
Housing	Flame-retardant PC					
Dimensions	120 x 120 x 26.5mm (4.72 X 4.72 X 1.04 in.)					
Pollution degree	Pollution Degree 2					
Operation type	Type 1					
Terminal sizing	Max. 2 x 1.5 mm² or 1 x 2.5 mm² conductors					
Regulatory Informat	ion					
Agency approvals	FCC CFR 47 Part 15 Subpart B Class B RSS 247 ICES-003:issue 6 UL 60730-1 UL 60730-2-9 CAN/CSA-E60730-1 CAN/CSA-E60730-2-9 IEC/EN 60730-1 IEC/EN 60730-2-9					
RoHS compliance	2011/65/EU 2015/863/EU					
REACH compliance	1907/2006/EC					

#### Communication

- Modbus
  - Configurable at 4800, 9600, 19200, 38400 & 76800 bps
- Maximum 31 nodes per RS-485 network
- Zigbee 3.0
  - Frequency 2.4 to 2.48 GHz
  - Communication range up to 100 m LOS in open air

### **Functions**

Set-point Adjustment – The set-point buttons allow users to adjust the set-point for the space in 0.5 °C/ 1 °F increments.

Fan Speed – Users can select fan speed (High, Medium, Low, Auto) by pressing the Fan button.

Mode Control – Users can switch operating modes (Heating, Cooling, Auto) by pressing the Mode button.

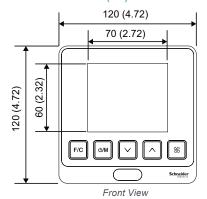
Eco Mode – Minimize the energy consumption in an unoccupied room when thermostat is ON. Provides quick resumption when people enter the room.

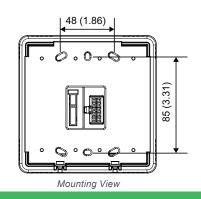
Occupied/Unoccupied Status - Smart logic can determine whether a room is in the occupied state on the basis of inputs such as the keycard/window switch, external occupancy sensor/door switch, and on-board PIR. When a room is determined to be in the unoccupied state, the system enters Eco mode.

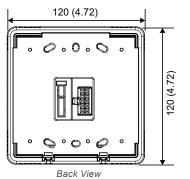
#### **Extreme Temperature Protection**

- · Heating mode automatically shuts down if room temperature exceeds 34.5°C (94°F)
- Cooling mode automatically shuts down if room temperature drops below 4.5°C (40°F)
- Configurable frost protection set-point range from 5 to 15°C (41 to 59°F). Default is 5°C (41°F).
- · Configurable high temperature protection set-point range from 25 to 35°C (77 to 95°F). Default is 35°C (95°F).
- · When room temperature exceeds the upper limit (50°C/122°F), the LCD will display 'HI'.
- When room temperature drops below the lower limit (0°C/32°F), the LCD will display 'LO'.
- When the on-board temperature sensor is open or short circuited, the LCD will display 'Er'.

## Dimensions mm (in.)









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Side View