

SCT Series

VAV & Fan Coil Thermostats

20260609R1

Technical Catalogue



The Havkon SCT.2402 Series is a modern thermostat family designed for VAV, fan coil and HVAC applications requiring precise temperature control and enhanced occupant comfort. Featuring a high-contrast LCD display and touch-sensitive buttons, the series offers an intuitive user experience combined with a contemporary appearance.

Designed for proportional HVAC control, SCT.2402 thermostats provides two independent 0–10 V analog outputs for precise fan speed and valve control. Automatic and manual operating modes allow the controller to adapt to different heating and cooling requirements while maintaining optimum comfort conditions.

Advanced features such as weekly scheduling, configurable control parameters, adjustable temperature limits, and optional communication capabilities make the SCT.2402 Series suitable for a wide range of commercial and residential HVAC applications.

Combining elegant design, reliable performance, and flexible control functionality, the SCT.2402 Series delivers an effective solution for modern building climate control systems.

Features

- VAV & Fan Coil Control
- 2 × Independent 0–10 V Outputs
- Automatic Heating / Cooling Mode
- Automatic & Manual Fan Control
- Up to 6 Fan Speed Levels
- Weekly Scheduler
- Optional Modbus RTU Communication
- 3.2" LCD Display and Touch-Sensitive Buttons
- Configurable Service Parameters

Order Codes

SCT.2402.T.W	Weekly Programmable VAV / Fan Coil Thermostat, 2×0–10 V Outputs, White Housing
SCT.2402.T.B	Weekly Programmable VAV / Fan Coil Thermostat, 2×0–10 V Outputs, Black Housing
SCT.2402.T.M.W	Weekly Programmable VAV / Fan Coil Thermostat, 2×0–10 V Outputs, Modbus RTU, White Housing
SCT.2402.T.M.B	Weekly Programmable VAV / Fan Coil Thermostat, 2×0–10 V Outputs, Modbus RTU, Black Housing

Warnings



Before installing and operating the device, carefully read the user manual and the instructions below.

- The user is responsible for any damage, loss, or injury caused by improper use or failure to follow these instructions.
- Do not modify, disassemble, or attempt to repair the device.
- Ensure correct supply voltage before powering the device.
- Disconnect power before installation and wiring.

Failure to comply with these instructions may result in device malfunction and will void the warranty.

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Product Overview

The **Havkon SCT.2402 Series** is designed for **VAV** and **fan coil** applications requiring **accurate room temperature control** and stable indoor comfort. With **two independent 0–10 V outputs**, the controller can simultaneously regulate **fan speed** and **valve position**, providing smooth and efficient HVAC operation.

Suitable for **offices, hotels, commercial buildings, and residential applications**, the SCT.2402 Series helps improve **occupant comfort** while supporting **energy-efficient system performance**. Its flexible control structure allows easy adaptation to different HVAC applications, making it an ideal solution for modern climate control systems.



Key Features & Functions

Application Areas

- VAV Terminal Units
- Fan Coil Units
- Hotels & Offices
- Building Automation Systems

Control Architecture

- Dual 0–10 V Control Outputs
- Fan & Valve Control
- Automatic Heating/Cooling Changeover
- Independent Fan & Valve Control

User Experience

- Touch-Sensitive Interface
- Automatic / Manual Operation
- Adjustable Setpoint Limits
- Configurable Service Parameters

Control Functions

- Temperature Control
- Weekly Scheduling
- Up to 6 Fan Speed Levels
- Optional Modbus RTU Communication

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Technical Specifications

Electrical Data	Power Supply	24 VAC/DC
	Power Consumption	Max. 1 VA
	Connection	Terminal block, 1.5 mm ²
	Real Time Clock (RTC) Backup Battery	CR1220 Lithium Cell, 3V
	Communication	Modbus RTU (RS-485) (SCT.2402.T.M only)
Environmental Conditions	Operating Temperature	0 ... +40°C
	Storage Temperature	0 ... +70°C (without icing and condensation)
	Relative Humidity	Max. 95% RH (Non-condensing)
User Functions	Display	3.2" LCD Display
	User Interface	Touch-Sensitive Buttons
	Operating Modes	Automatic / Manual Operation
	Fan Control	Independent Fan & Valve Control
	Weekly Scheduler	Available
	Key Lock Function	Available
	Service Parameters	Configurable
	Temperature Limits	Adjustable
Protection & Standards	Protection Degree	IP 20
	Standard	EN 60529
	Housing	ABS / PC Plastic Enclosure
	Color Options	White / Black

Enclosure Specifications

Mounting	Wall mounting
Dimensions	W86xH86xD40mm (Width x Height x Depth)
Visible Screen Area	W66xH50mm
Weight	140 g

Connections

The device must be installed and operated in accordance with applicable electrical regulations.

- Ensure that the power supply is disconnected before installation and wiring.
- Use appropriate cable cross-sections according to load and installation conditions.
- Do not route signal cables together with power cables.
- Protect the device from moisture, dust, and vibration.

Recommended: Use an external fuse rated **max. 2 A** for supply protection.

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User Interface & Operation

The main screen provides real-time monitoring of room temperature, operating mode, fan speed level, and system status. Users can easily adjust set temperature values and navigate device functions using the front touch-sensitive buttons.

The display shows:

- Current room temperature
- Set temperature (Setpoint)
- Fan speed level
- Heating / Cooling Mode
- Weekly schedule status
- Date and time

The front buttons provide quick access to operating modes, fan control, parameter settings and temperature adjustment functions.

Button	Function
 Power	Device On / Off
M Mode / OK	Mode Selection / Confirm
Fan	Fan Speed Selection
	Increase Value / Navigate Up
	Decrease Value / Navigate Down

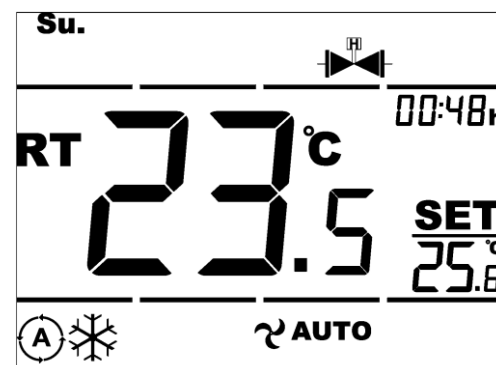


Operating Modes

The device supports multiple operating modes for flexible temperature and comfort control. Users can easily switch between operating modes using the **M (MODE/OK)** button, while the active mode is continuously displayed on the main screen.

- **Automatic Mode** – Automatic heating and cooling control according to room conditions
- **Manual Mode** – User-controlled heating, cooling, and fan operation
- **Fan Mode** – Independent fan speed adjustment with automatic or manual selection
- **Weekly Schedule** – Time-based automatic operation according to programmed schedules.

The active operating mode and system status information are continuously displayed on the main screen for convenient daily monitoring.



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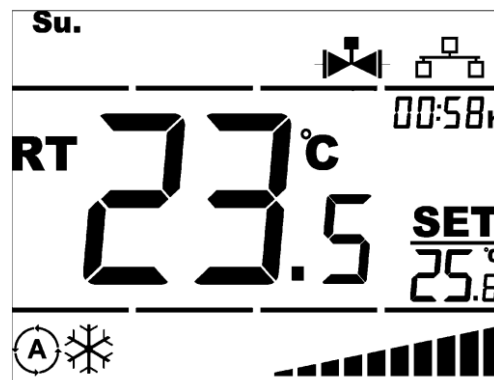
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Set Temperature Adjustment

The desired room temperature can be adjusted directly using the ▲ and ▼ buttons. The selected setpoint value is displayed on the main screen and can be modified at any time during heating or cooling operation.

- **Increase Setpoint** – Press the ▲ button to increase the desired temperature
- **Decrease Setpoint** – Press the ▼ button to decrease the desired temperature.
- **Setpoint Display** – The configured temperature value is continuously shown on the main screen

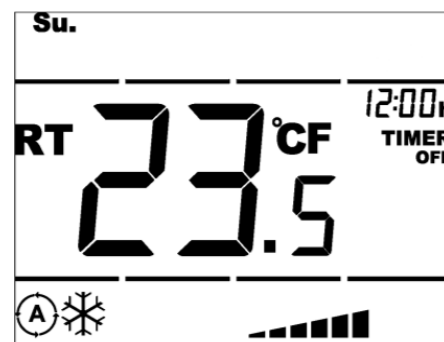
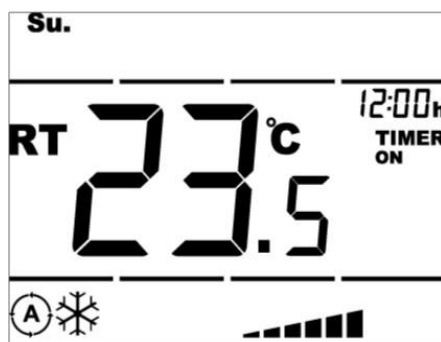
Temperature adjustment is available during heating and cooling operation modes.



Weekly Program

The Havkon SCT.2402 Series includes a weekly scheduling function for automatic temperature control during selected time periods.

Users can define individual start and stop times for each day of the week, allowing the controller to operate according to the programmed schedule..



The weekly program menu allows:

- Daily start and stop time adjustment
- Individual weekday programming
- Automatic scheduled operation
- Weekly timer activation and deactivation

When the weekly schedule is active, the clock icon appears on the main display screen.

Notes

- If the start time is later than the stop time, weekly scheduling is ignored and the device remains off for the selected day.
- If the start time and stop time are identical, weekly scheduling is disabled for the selected day.
- When a valid weekly schedule is active, the clock icon is displayed on the main screen during the programmed operating period

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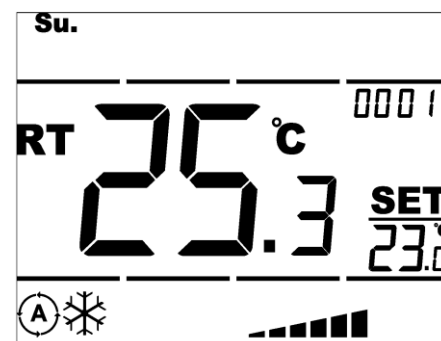
Date & Time Settings

The device includes an integrated date and time setting function for weekly scheduling and time-based HVAC operation.

Users can configure:

- Date information
- Time information
- Day of the week

All settings are adjusted using the front buttons through the setup menu. Correct date and time configuration is required for accurate weekly program operation.



Display Backlight Settings

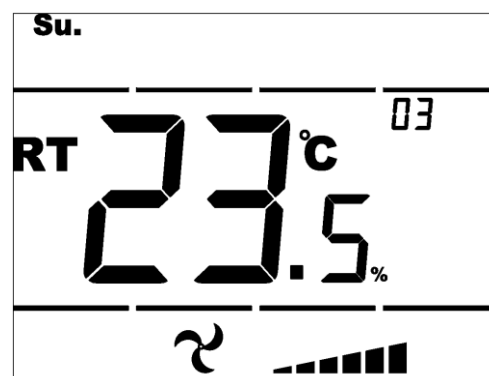
The display backlight timeout can be adjusted to suit different installation environments and user preferences. The setting is available through **Parameter 2** in the user menu and allows the backlight duration to be configured according to the desired operating conditions.

Users can configure:

- Display backlight timeout
- Backlight duration setting (0–10)
- Automatic return to normal display mode

The backlight timeout value can be adjusted between 0 and 10, where 0 represents the minimum duration and 10 represents the maximum duration.

The selected backlight setting helps optimize display visibility and user comfort during daily operation.

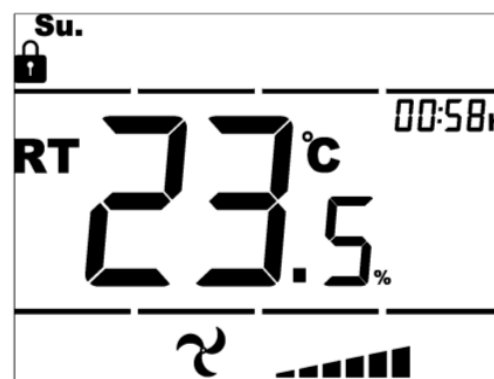


Key Lock Function

The key lock function prevents unauthorized or accidental changes to thermostat settings during normal operation. When enabled, user inputs are temporarily disabled while the device continues to operate normally.

To activate or deactivate the key lock function, press and hold the **Fan button** for **approximately 5 seconds**.

The lock status is indicated by the key lock icon displayed on the main screen.



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MODBUS-RTU Configuration

The **SCT.2402.T.M** model supports **Modbus RTU communication** for integration with Building Management Systems (BMS) and HVAC automation networks.

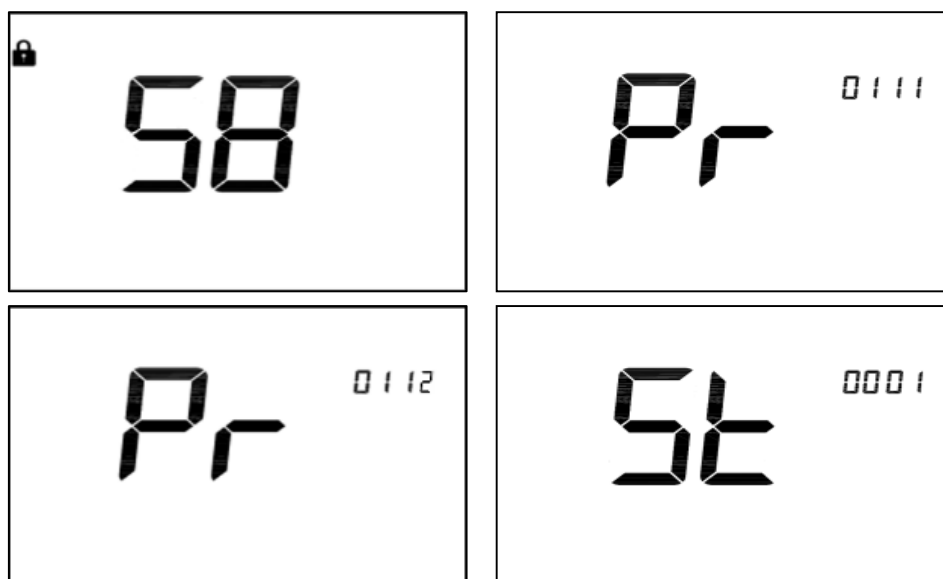
Communication parameters can be configured through the service menu to match system requirements.

Users can configure:

- Modbus Device ID
- Communication Baud Rate
- Communication Parameters

Supported baud rate options:

- 1200 bps
- 2400 bps
- 4800 bps
- 9600 bps
- 19200 bps



Notes

- Default service password: 58
- Default Modbus Address Parameter: **16**
- Default Baud Rate Parameter: **17**
- Communication format is fixed as **8 Data Bits, No Parity, 1 Stop Bit**
- All Modbus parameters are stored as signed integer values



Warning

Parameter changes in the service menu should only be performed by authorized technical personnel. Incorrect communication settings may interrupt Modbus communication or device operation.

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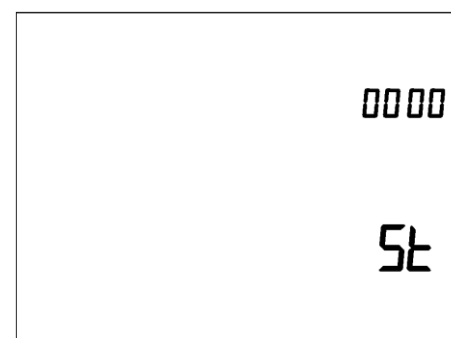
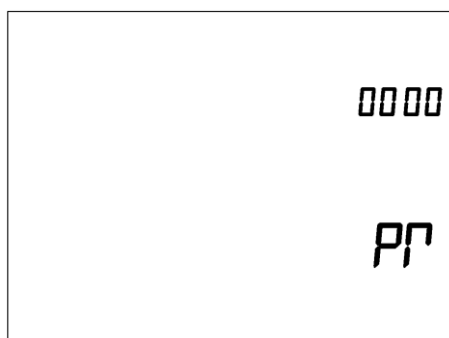
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Service Settings Menu

The service settings menu provides access to advanced configuration parameters used for system commissioning, operation, and communication settings. Authorized personnel can modify device parameters to match specific application requirements.



To access the service menu:

- Press and hold the ▲ and ▼ buttons simultaneously for approximately **2 seconds** while the device is in the standby mode
- Enter the service password and confirm using the **M (MODE/OK)** button
- Select the desired parameter and adjust its value as required
- Confirm the new setting using the **M (MODE/OK)** button

The service menu allows configuration of temperature control, fan control, system settings, communication parameters, and advanced control functions.

Notes

- **Default service password:** 20
- Parameter changes should only be performed by qualified technical personnel.



Warning

Incorrect parameter settings may affect thermostat operation and system performance.
Service menu access is intended for commissioning and maintenance purposes only.

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Service Settings Menu

No	Parameter	Description	Factory Setting	Equivalent Value
0	Temperature Sensor Calibration	Adjusts the measured room temperature value to compensate for sensor deviations.	0	0.0°C
1	System Type Selection	Selects the HVAC application type. 0 → 2-Pipe Fan Coil, 1 → 4-Pipe Fan Coil, 2 → Dual Analog Output.	1	4-Pipe Fan Coil
2	Minimum Setpoint Limit	Defines the minimum allowable cooling setpoint temperature. Example: 150 → 15.0°C.	150	15.0°C
3	Maximum Setpoint Limit	Defines the maximum allowable heating setpoint temperature. Example: 300 → 30.0°C.	300	30.0°C
4	Valve Control Deadband (ΔT)	Temperature differential between room temperature and setpoint for valve operation. Example: 9 → 0.9°C.	9	0.9°C
5	Automatic Cooling Deadband	Cooling deadband used during automatic mode. Example: 5 → 0.5°C.	5	0.5°C
6	Automatic Heating Deadband	Heating deadband used during automatic mode. Example: 5 → 0.5°C.	5	0.5°C
7	Fan Control Deadband (ΔT)	Temperature differential between room temperature and setpoint for fan operation. Example: 9 → 0.9°C.	9	0.9°C
8	Fan Speed Differential (ΔT)	Temperature differential between fan speed stages. Example: 10 → 1.0°C.	10	1.0°C
9	Fan Thermostatic Control	Selects fan operation when setpoint is reached. 0 → Fan and valve stop together, 1 → Valve stops and fan continues.	0	Fan & Valve Stop
10	Automatic Mode Fan Speed	Fan operating level in automatic mode. 0 → Stop, 1 → Speed 1, 2 → Speed 2, 3 → Speed 3.	0	Stop
11	Fan / Valve Delay Time	Delay time applied to fan and valve operation.	20	20 s
12	Temperature Source Selection	0 → Internal Sensor, 1 → External Sensor, 2 → Internal Sensor + Door/Window Contact.	2	Internal + Contact
13	Door / Window Contact Type	0 → Normally Open (NO), 1 → Normally Closed (NC).	0	NO
14	Door / Window Contact Delay	Delay time before door/window contact status is accepted.	20	20 s

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Service Settings Menu

No	Parameter	Description	Factory Setting	Equivalent Value
15	Temperature Filter Constant	Filter coefficient used to stabilize temperature readings.	5	Level 5
16	Modbus Device Address	Modbus RTU slave address.	1	Address 1
17	Modbus Baud Rate	Communication baud rate. 0→1200, 1→2400, 2→4800, 3→9600, 4→19200 bps.	3	9600 bps
18	Control Mode Selection	Selects available HVAC operating modes.	0	Full Control
19	Radiator Mode	Enables valve-only operation without fan control.	0	Disabled
20	Reserved	Reserved for future use	-	-
21	Power Recovery Mode	Defines device behavior after power restoration.	0	Resume Previous State
24	Fan Speed Level 1 Output	Analog output value assigned to fan speed level 1. Example: 200 → 2.0V .	200	2.0V
25	Fan Speed Level 2 Output	Analog output value assigned to fan speed level 2. Example: 400 → 4.0V .	400	4.0V
26	Fan Speed Level 3 Output	Analog output value assigned to fan speed level 3. Example: 500 → 5.0V .	500	5.0V
27	Fan Speed Level 4 Output	Analog output value assigned to fan speed level 4. Example: 600 → 6.0V .	600	6.0V
28	Fan Speed Level 5 Output	Analog output value assigned to fan speed level 5. Example: 800 → 8.0V .	800	8.0V
29	Fan Speed Level 6 Output	Analog output value assigned to fan speed level 6. Example: 1000 → 10.0V .	1000	10.0V
30	Valve PID Proportional Gain (P)	Proportional gain of the valve PID controller.	30	P = 30
31	Valve PID Integral Gain (I)	Integral gain of the valve PID controller.	5	I = 5
32	Valve PID Minimum Output	Minimum PID output limit.	0	0.0V
33	Valve PID Maximum Output	Maximum PID output limit.	1000	10.0V

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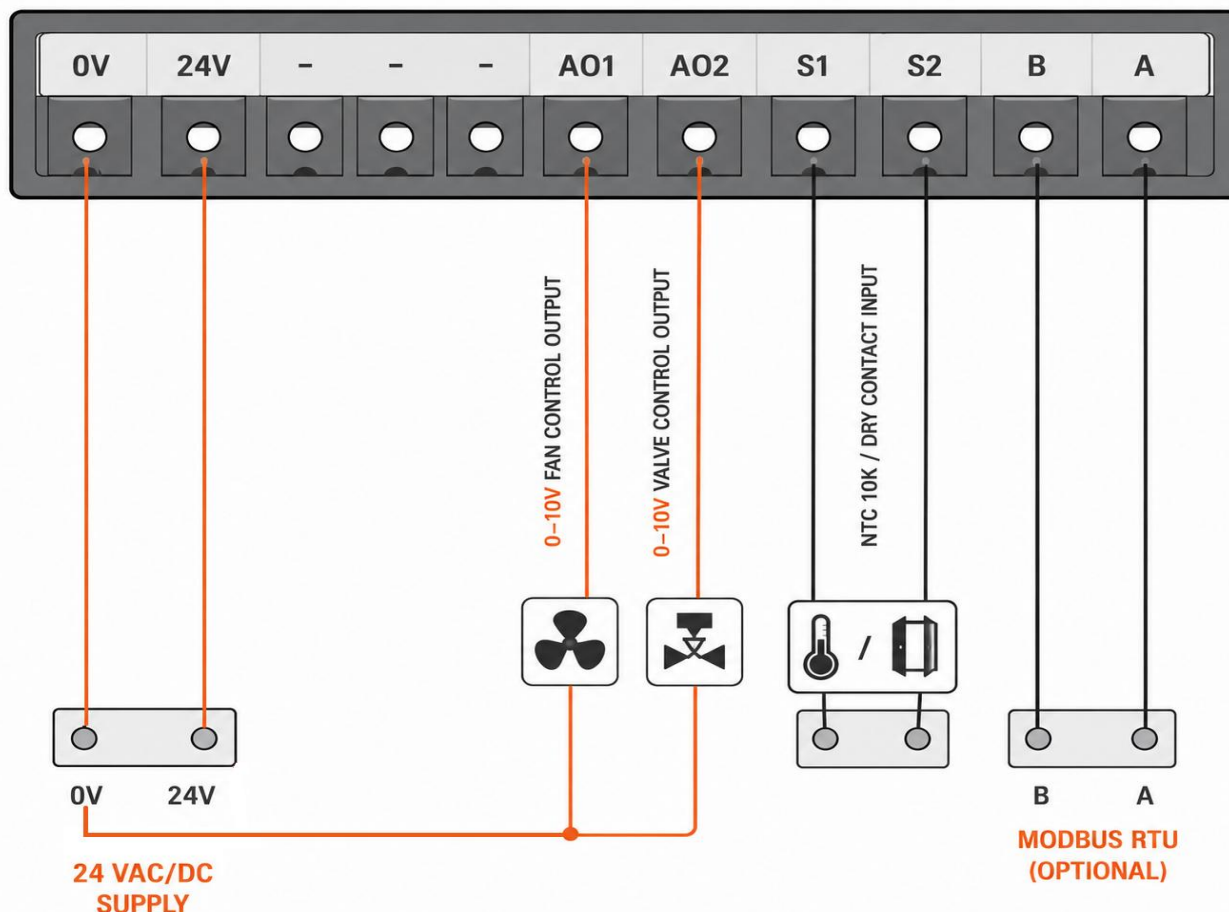
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Wiring Diagram

The following diagram illustrates the typical wiring connections for power supply, analog outputs, external temperature sensor, and Modbus RTU communication.



Terminal	Description
0V	Power Supply Common
24V	24 VAC/DC Supply
AO1	0–10 V Fan Control Output
AO2	0–10 V Valve Control Output
S1	NTC 10K Sensor / Dry Contact Input
S2	NTC 10K Sensor / Dry Contact Input
B	RS-485 Modbus RTU (B)
A	RS-485 Modbus RTU (A)

Notes

- AO1 and AO2 are independent **0–10 VDC analog control outputs**.
- The analog outputs use **0V as the common reference terminal**.
- S1 and S2 terminals can be used for either an **external NTC 10K temperature sensor** or a **dry contact input**.
- Only one input type (NTC sensor or dry contact) should be connected to S1–S2 at a time.
- RS-485 communication is available on **SCT.2402.T.M** models only.
- Observe correct polarity when connecting Modbus RTU communication lines.

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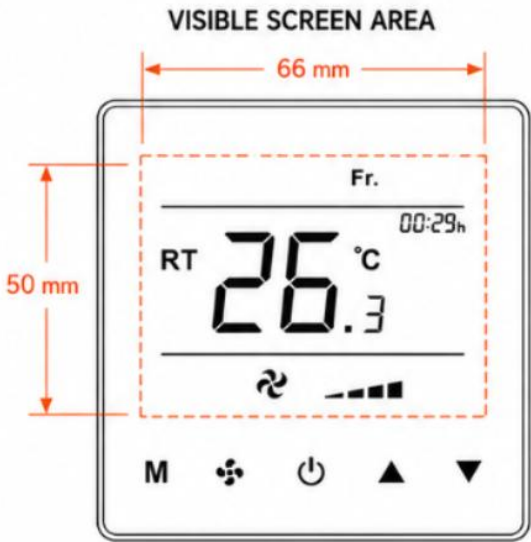
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Dimensions

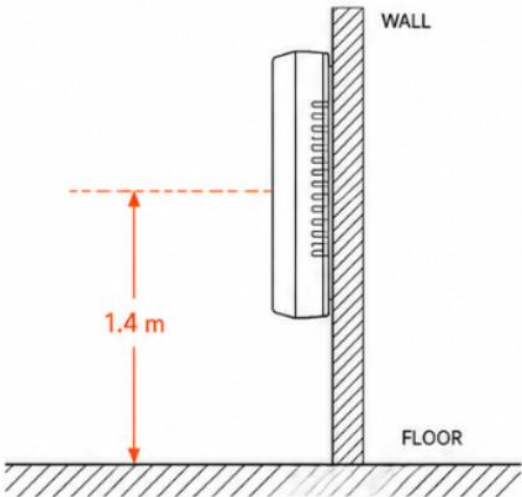
The Havkon SCT.2402 Series is designed with a compact wall-mounted enclosure suitable for standard room thermostat applications.



Weight: 140 g.



RECOMMENDED INSTALLATION HEIGHT



PARAMETER	VALUE
Width	86 mm
Height	86 mm
Depth	40 mm
Visible Screen Area	66 × 50 mm
Weight	140 g
Installation Height	1.4 m

i NOTE

All dimensions are given in millimeters.