

1 Description

This programmable thermostat can be used to control an electric heating system such as an electric baseboard heater, a radiant ceiling, a radiant floor, a convactor, etc.

The thermostat cannot be used under the following conditions:

- The resistive load is greater than 16.7 A
- The resistive load is less than 2 A
- The system is driven by a contactor or relay (inductive load)
- The system is a central heating system

SUPPLIED PARTS:

- One (1) thermostat
- Two (2) 6-32 screws
- Two (2) solderless connectors

2 Installation

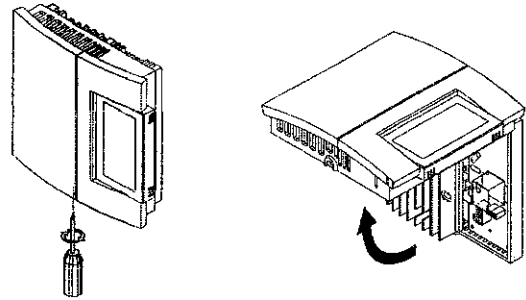
TURN OFF POWER TO THE HEATING SYSTEM AT THE MAIN POWER PANEL TO AVOID ELECTRICAL SHOCK.

THE INSTALLATION MUST BE PERFORMED BY AN ELECTRICIAN.

- ▶ All cables and connections must conform to the local electrical code.
- ▶ Special CO/ALR solderless connectors must be used when connecting with aluminum conductors.
- ▶ Install the thermostat onto an electrical box.
- ▶ Install the thermostat about 5 feet high, on an inside wall facing the heater.
- ▶ Avoid locations where there are air drafts (such as the top of a staircase or an air outlet), dead air spots (such as behind a door), or direct sunlight.
- ▶ Do not install the thermostat on a wall that conceals chimney or stove pipes.
- ▶ The thermostat wires are not polarized; either wire can be connected to the load or to the power supply.

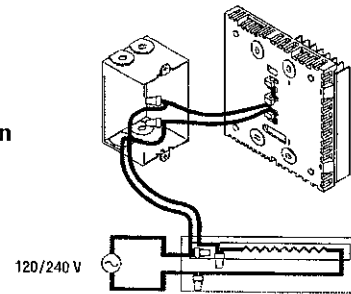
NOTE: Always keep the thermostat's vents clean and unobstructed.

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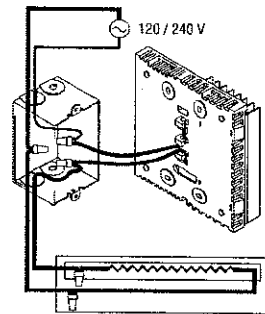


- 2 Connect the thermostat wires to the line wires and to the load wires using solderless connectors for copper wires.

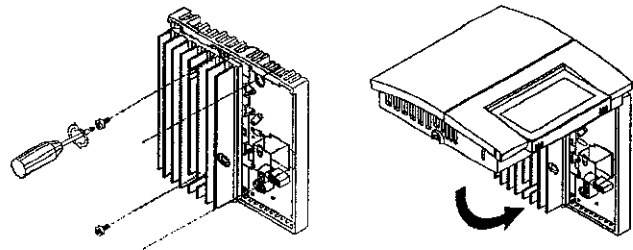
2-wire installation



4-wire installation



- 3 Push any excess wire back into the electrical box.

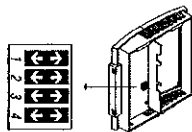


NOTE: If necessary, before re-installing the front component, configure the thermostat (see section 3).

- 4 Return power to heating system.

3 Configuration

The configuration switches are on the back of the thermostat. The factory settings are indicated by the gray cells in the following table.



SW1	Early Start ^a	Off	On
SW2	Temperature / time format ^b	°C / 24-hour	°F / 12-hour
SW3	Cycle length ^c	5 seconds	15 minutes
SW4	Not used	-	-

- Early Start can be used in Automatic mode only. When this function is enabled, the thermostat calculates the optimal time to start heating in order to obtain the desired temperature by the set time. The thermostat re-assesses the start time daily based on the previous day's performance.
- If you change the temperature display format, the preset temperatures (*, Ⓞ and ☐) will return to their default settings.
- 15-second cycles should be selected in most cases as it provides better temperature control. 15-minute cycles must be selected if you have a fan-equipped heater or if 15-second cycles causes light flickering (especially in rural regions).

4 Power-up

Upon power-up, the thermostat is in manual mode (⚡) and displays the actual (ambient) temperature.

- Press the **Hour** and **Min** buttons to set the thermostat's clock.
- Press the **Day** button to set the day.

5 Temperature Setting

Setpoint

The thermostat normally displays the actual temperature. To view the setpoint, press the ▲ or ▼ button briefly. The setpoint will appear for the next 5 seconds.

To change the setpoint, press the ▲ or ▼ button until the desired temperature is displayed. To scroll faster, hold the button.

Using a preset temperature

The thermostat has 3 preset temperatures:

- Comfort temperature *
- Economy temperature Ⓞ
- Vacation temperature ☐

Icon	Intended use	Factory setting
*	Comfort (when at home)	21°C (70°F)
Ⓞ	Economy (when asleep or away from home)	16.5°C (62°F)
☐	Vacation (during prolonged absence)	10°C (50°F)

- To use the Comfort or Economy temperature, press the * or Ⓞ button respectively. The corresponding icon will be displayed.
- To use the Vacation temperature, press both * and Ⓞ buttons simultaneously. The ☐ icon will be displayed.

Storing a preset temperature

To store the Comfort or Economy temperature:

Set the desired temperature using the ▲ or ▼ button. Press and hold the appropriate button (* or Ⓞ) for approximately 3 seconds until the corresponding icon is displayed. Press the **Mode** button.

To store the Vacation temperature:

Set the desired temperature using the ▲ or ▼ button. Press and hold both * and Ⓞ buttons simultaneously for approximately 3 seconds until the ☐ icon is displayed. Press the **Mode** button.

6 Operating Modes

⊙ **Automatic** - The temperature is set according to the programmed schedule. To place the thermostat in this mode, press **Mode** until ⊙ is displayed. The icons of the current period and preset temperature are also displayed.

Temporary Bypass: If you modify the setpoint (by pressing the ▲, ▼, * or Ⓞ button) when the thermostat is in automatic mode, the new setpoint will be used until the end of the current period. When the next period starts, the temperature set for that period becomes the new setpoint.

⚡ **Manual** - The programmed schedule is not used. The temperature must be set manually. To place the thermostat in this mode:

- Press **Mode** until ⚡ is displayed.
- Set the temperature using the ▲, ▼, * or Ⓞ button.

7 Schedule

The schedule consists of 4 periods per day which represents a typical weekday. You can program the thermostat to skip the periods that do not apply to your situation. For example, you can skip periods 2 and 3 for the weekend.

Period	Description	Associated temperature preset
☐	Wake	*
Ⓞ	Leave	Ⓞ
*	Return	*
Ⓞ	Sleep	Ⓞ

The Comfort (*) temperature is used in periods 1 and 3 and the Economy (Ⓞ) temperature is used in periods 2 and 4. For example, when the period changes from 1 to 2, the setpoint automatically changes from Comfort setting (*) to Economy setting (Ⓞ).

You can have a different program for each day of the week; i.e., each period can start at different time for each day of the week. The thermostat has been programmed with the following schedule.

Period	Setting	MO	TU	WE	TH	FR	SA	SU
☐	*	8:00 AM	6:00 AM	6:00 AM	6:00 AM	6:00 AM	6:00 AM	6:00 AM
Ⓞ	Ⓞ	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	--	--
*	*	6:00 PM	6:00 PM	6:00 PM	6:00 PM	6:00 PM	--	--
Ⓞ	Ⓞ	10:00 PM	10:00 PM	10:00 PM	10:00 PM	10:00 PM	10:00 PM	10:00 PM

To modify the schedule:

- Press **Pgm** to access the programming mode. Period 1 is selected.
- Press **Day** to select the day to program (hold for 3 seconds to select the entire week).
- Press **Hour** and **Min** to set the start time of the selected period, or press **Clear** if you want to skip the period (--- is displayed).
- Press **Pgm** to select another period, or press **Day** to select another day. Then repeat step 3.

5 Press **Mode** to exit the programming mode.

NOTE: If no button is pressed for 60 seconds, the thermostat will automatically exit the programming mode.

8 Power Outage

During a power outage, the settings are stored in memory. However, only the thermostat's clock must be re-adjusted if the power failure lasts more than 2 hours. When power comes back, the thermostat will return to the operating mode that was active prior to the power failure.

9 Troubleshooting

PROBLEM	SOLUTIONS
Thermostat is hot.	This condition is normal. Under normal operation, the thermostat housing can reach a temperature between 35°C (95°F) and 40°C (104°F).
Heater is always On.	The thermostat has not been correctly wired.
Thermostat indicates that heating is On, but the heater is not On.	The thermostat has not been correctly wired.
Wrong temperature is displayed.	The thermostat is exposed to air draft. Eliminate the draft. The sticker on the thermostat's screen has not been removed.
Wrong time is displayed.	The thermostat was without power for more than 2 hours.
Temperature does not change according to the programmed schedule.	Check that the thermostat is in Automatic mode. Check the schedule and clock settings.
Display disappears and reappears after a few minutes.	The thermal protection device on the heater is open. This can happen after a power failure or if the heater is obstructed by furniture or curtains.
Display looks faded when heating is activated	The heating system is less than the required minimum load. This thermostat cannot be used below that rating.

10 Technical Specifications

Power: 120/240 VAC, 50/60 Hz

Minimum load: 2 A (resistive only)
500 W @ 240 VAC
250 W @ 120 VAC

Maximum load: 16.7 A (resistive only)
2000 W @ 120 VAC
4000 W @ 240 VAC

Display range: 0°C to 60°C (32°F to 140°F)

Display resolution: 0.5°C (1°F)

Setpoint range: 5°C to 30°C (40°F to 86°F)

Setpoint interval: 0.5°C (1°F)

Storage: -20°C to 50°C (-4°F to 120°F)

Approval: c UL us

Warranty

HYDRO-SIL ONE (1) YEAR LIMITED WARRANTY

This product is warranted against material defects and workmanship in normal use for a period of one year, from the date of the original purchase from authorized dealers. During this period, HYDRO-SIL will repair or replace the product with a new or of equivalent quality at HYDRO-SIL'S option, without charge, any product proven defective in normal use.

Warranty does not cover transportation costs. Nor does it cover a product subjected to misuse or accidental damage. This warranty does not cover the cost of installation, removal or reinstallation.

This limited warranty is in lieu of all other warranties, obligations or liabilities expressed or implied by the company. In no event shall HYDRO-SIL be liable for consequential or incidental damages resulting from installation of this product. Some states or provinces do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above exclusions or limitations may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

The defective product and the original sale receipt must be returned to the original dealer or shipped pre-paid, insured and addressed to:

HYDRO-SIL
4116-A Rose Lake Drive
Charlotte, NC
USA, 28217



Customer Assistance

If you have any questions concerning the installation or programming of this product, please call our technical assistance at 1-800-627-9276, Monday to Friday between 8:30 AM and 5:00 PM Eastern time.



As an ENERGY STAR® partner, HYDRO-SIL has determined that this product meets the ENERGY STAR guidelines for energy efficiency.