

neptronic® 7 days Programmable Fan Coil Thermostat

Specification & Installation Instructions

Fan Coil Thermostat



Features:

- Attractive modern look with large LCD and backlight
- Icons driven information and 1 line of text information
- 2 Pipes Analog, ON/OFF or Floating or 4 Pipes Analog, ON/OFF with local re-heat function
- Auto fan and ON/OFF function enable or disable
- 7 days programming logic
- 2 or 4 daily independent time schedule and temperature
- AM-PM or 24 hours time display
- Temporary override programmed temperature
- Selectable internal or external temperature sensor
- Change over by contact or external temperature sensor
- Celsius or Fahrenheit scale selectable
- Anti-freeze protection

TFC24F3XYZ3

Technical Data	TFC24F3XYZ3
Inputs	1 Analog input (external temperature sensor 10Kohms)
	1 Analog input (change over 10Kohms or dry contact)
Outputs	1 Fan analog or 3 Fan speed dry contracts 24Vac, 1A max 3A in-rush
	2 Analog outputs (cooling and/or heating 0-10Vdc)
	1 Analog output (local reheat 0-10Vdc)
	2 Triacs output (cooling and/or heating) 24Vac, 0.3A max fused / triac
	1 Triacs output (local reheat) 24Vac, 0.3A max fused / triac
Power supply	22 to 26 Vac 50/60Hz
Power consumption	1 VA max
Set point range	10°C to 40°C [50°F to 104°F]
Control accuracy	Temperature: ±0.4°C [0.8°F]
Proportional band	0.5°C to 5°C [1°F to 10°F] adjustable (heat/cool/reheat independent)
Dead band	0.3°C to 5°C [0.6°F to 10°F] adjustable (heat/cool/reheat independent)
Electrical connection	0.8 mm ² [18 AWG] minimum
Operating temperature	0°C to 50°C [32°F to 122°F]
Storage temperature	-30°C to 50°C [-22°F to 122°F]
Relative Humidity	5 to 95 % non condensing
Degree of protection of housing	IP 30 (EN 60529)
Weight	160 g. [0.36 lb]

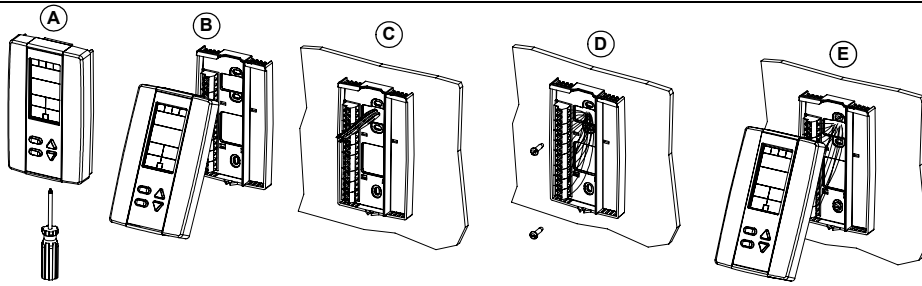
Presentation

Symbols on display					
		Cooling ON 33,66,100% output A: Automatic		Menu set-up Lock	Morning
		Heating ON 33,66,100% output A: Automatic		Programming mode (Technician setting)	Day
		Fan ON 3 rd speed activated A: Automatic		Alarm status	Evening
		°C: Celsius scale °F: Fahrenheit scale		Morning Afternoon	Night
	MO TU WE TH FR SA SU				Day of the week

Dimensions

Dimension	Inches	Metric (mm)
A	2.85	73
B	4.85	123
C	1.00	24
D	2.36	60
E	3.27	83

Mounting Instructions



CAUTION: Risk of malfunction. Remove power prior to separate thermostat cover from its base.

- Remove the screw (captive) holding the base and the front cover of the thermostat.
- Lift the front cover of the thermostat to separate it from the base.
- Pull wire through the base hole.
- Secure the base to the wall using wall anchors and screws (supplied). Make the appropriate connections.
- Mount the control module on the base and secure using the screw.

Terminal Description






2 Pipe		Analog				On/Off				Floating			
Terminals	Fan option	analog	1 spd	2 spd	3 spd	analog	1 spd	2 spd	3 spd	analog	1 spd	2 spd	3 spd
1	Common	Common				Common				Common			
2	24 Vac	24 Vac				24 Vac				24 Vac			
3	Common Triac	Common Triac				Common Triac				Common Triac			
4	Triac output 1 (TO1)	Floating output 1	-			2 Pipe on/off				2 Pipe floating (close)			
5	Triac output 2 (TO2)		-			-				2 Pipe floating (open)			
6	Triac output 3 (TO3) Reheat	Local reheat (optional) (on/off or pulse)				Local reheat (optional) (on/off or pulse)				Local reheat (optional) (on/off or pulse)			
7	Common Relay	-	Common Relay			-	Common Relay			-	Common Relay		
8	Digital output 1 (DO1)	-	-	-	High	-	-	-	High	-	-	-	High
9	Digital output 2 (DO2)	-	-	High	Med	-	-	High	Med	-	-	High	Med
10	Digital output 3 (DO3) / Analog Fan Speed (AO4)	Fan analog	1 spd	Low	Low	Fan analog	1 spd	Low	Low	Fan analog	1 spd	Low	Low
11	Not used	-				-				-			
12	External Temp. Sensor (AI1)	External Temp. Sensor (optional)				External Temp. Sensor (optional)				External Temp. Sensor (optional)			
13	External Changeover (AI2)	External Changeover				External Changeover				External Changeover			
14	Analog output 1 (AO1)	2 Pipe analog				-				-			
15	Analog output 2 (AO2)	-				-				-			
16	Analog output 3 (AO3) Reheat	Local reheat analog (optional)				Local reheat analog (optional)				Local reheat analog (optional)			







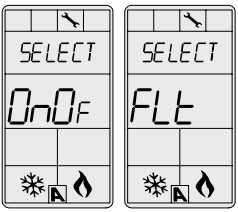
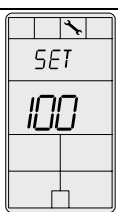

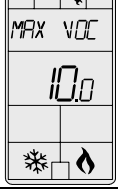
4 Pipe		Cool & Heat Analog				Cool & Heat On/Off				Cool Analog-Heat On/Off or pulse				Cool On/Off - Heat Analog			
Terminals	Fan option	analog	1 spd	2 spd	3 spd	analog	1 spd	2 spd	3 spd	analog	1 spd	2 spd	3 spd	analog	1 spd	2 spd	3 spd
1	Common	Common				Common				Common				Common			
2	24 Vac	24 Vac				24 Vac				24 Vac				24 Vac			
3	Common Triac	Common Triac				Common Triac				Common Triac				Common Triac			
4	Triac output 1 (TO1)	Floating output 1	-			4 Pipe on/off cool				-				4 Pipe on/off cool			
5	Triac output 2 (TO2)		-			4 Pipe (on/off or pulse) heat				4 Pipe (on/off or pulse) heat				-			
6	Triac output 3 (TO3) Reheat	Local reheat (optional) (on/off or pulse)				Local reheat (optional) (on/off or pulse)				Local reheat (optional) (on/off or pulse)				Local reheat (optional) (on/off or pulse)			
7	Common Relay	-	Common Relay			-	Common Relay			-	Common Relay			-	Common Relay		
8	Digital output 1 (DO1)	-	-	-	High	-	-	-	High	-	-	-	High	-	-	-	High
9	Digital output 2 (DO2)	-	-	High	Med	-	-	High	Med	-	-	High	Med	-	-	High	Med
10	Digital output 3 (DO3) / Analog Fan Speed (AO4)	Fan analog	1 spd	Low	Low	Fan analog	1 spd	Low	Low	Fan analog	1 spd	Low	Low	Fan analog	1 spd	Low	Low
11	Not used	-				-				-				-			
12	Ext. Temp Sensor (AI1)	External Temp. Sensor (optional)				External Temp. Sensor (optional)				External Temp. Sensor (optional)				External Temp. Sensor (optional)			
13	External Changeover (AI2)	-				-				-				-			
14	Analog output 1 (AO1)	4 Pipe analog cool				-				4 Pipe analog cool				-			
15	Analog output 2 (AO2)	4 Pipe analog heat				-				-				4 Pipe analog heat			
16	Analog output 3 (AO3) Reheat	Local reheat analog (optional)				Local reheat analog (optional)				Local reheat analog (optional)				Local reheat analog (optional)			


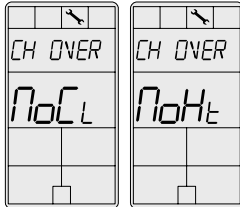


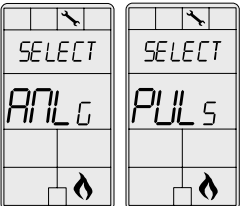






Settings on PC Board


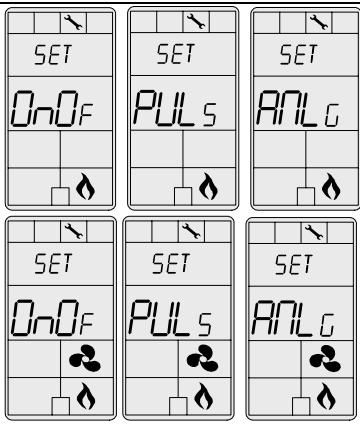


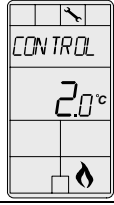
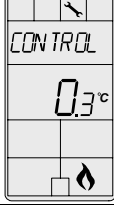
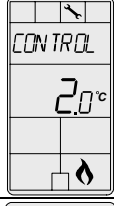
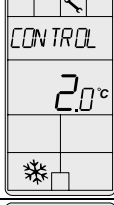
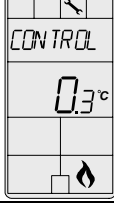
	Triac Output Signal Selection (JP1)		Mode Selection (JP3)	
		Jumper (JP1) on 24Vac: All triac output signal is linked to 24 Vac.		Jumper (JP3) on RUN: Thermostat is in <u>operation mode</u> . Thermostat must be set in this mode to operate properly. If not locked, set point, control mode and speed fan (Heating & Cooling ON, Cooling only ON or Heating only ON) may be modified by end user.
		Jumper (JP1) on COMMON TRIAC: All triac output signals are linked to common triac.		
	Digital Output Signal Selection (JP2)			Jumper (JP3) on PGM: Thermostat is set in <u>Programming mode</u> . Refer to following section about all settings description
		Jumper (JP2) on 24Vac: All digital output signal is linked to 24 Vac.		
		Jumper (JP2) on COMMON RELAY: All digital output signals are linked to common relay.		
Fan Output Signal Selection (JP4)				
	Jumper (JP4) on top: Pin 10 of TB1 is set to be digital output signal (DO3).		Jumper (JP4) on bottom: Pin 10 of TB1 is set to be analog output signal (AO4).	



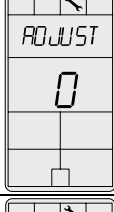
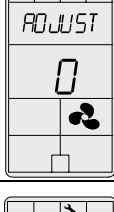
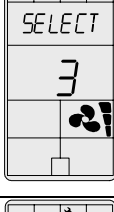
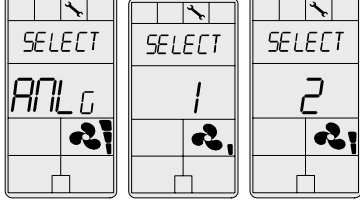
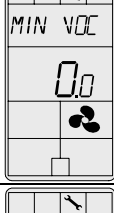
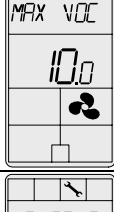
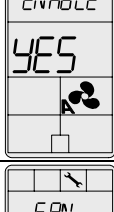
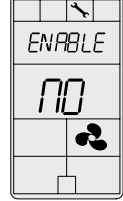
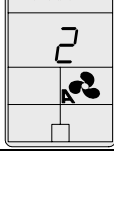
Programming Mode






When in this mode this symbol  is displayed. Please press on button  to advance to the next program function, press on button  to return to preceding stage and press on button  or  to change value. You can leave the programming mode at any time, changed values will be recorded.

Step	Display	Description	Values
1		Internal temperature sensor Calibration: Display shows "INSIDE TEMPER SENSOR OFFSET" and temperature read by internal temperature sensor. You can adjust the calibration of the sensor by comparison with a known thermometer. For example if thermostat has been installed in an area where temperature is slightly different than the room typical temperature (thermostat place right under the air diffuser).	Range : 10 to 40°C [50 to 104°F] (max. offset ± 5 °C) Increment: 0.1°C [0.2°F] (factory calibrated)
2		Set On/Off function enable or disable: Display shows "ENABLE ON OFF CONTROL MODE". You can enable or disable the On/Off function in control mode adjustment by end user.	 Default value: Enable (YES)
3		Set 2 pipe or 4 pipe: Display shows "SELECT 2 PIPE 4 PIPE SYSTEM". Cooling and heating symbols are also displayed. Select which number of pipes you want to use: 2 pipes or 4 pipes. If you have selected the 4 pipes, go directly to step #10.	 Default value: 2 pipe
4		Set signal for 2 pipe system: Display shows "SELECT 2 PIPE SIGNAL". Cooling and heating symbols are also displayed. Select which signal output you want for your 2 pipe system. You can choose analog, on/off or floating output. If you select analog, AO1 will be set in automatic heat/cool change over. If you select on/off, TO1 will be set in automatic heat/cool change over. If you select floating, TO1 will be set close and TO2 open. If you have selected analog signal, go directly to step #6. If you have selected on/off signal, go directly to step #8.	 Default value: Analog
5		Set floating time: Display shows "SET FLOATING TIME IN SECONDS" and the floating time value (in seconds). Please select desired value of the floating time signal. Go to step #8.	Range: 15 to 250 sec. Increment: 5 sec. Default value: 100 sec.
6		Minimum voltage of the analog output: Display shows "MIN VOC ANALOG OUTPUT" and the value of the minimum voltage of the analog ramp. Please select the desired value of the minimum voltage of the analog ramp. (This is the "zero" value) The minimum value is restricted by the maximum value. (step #7)	Range: 0.0 to 10.0 Volt Increment: 0.1 Volt Default value: 0.0 Volt
7		Maximum voltage of the analog output: Display shows "MAX VOC ANALOG OUTPUT" and the value of the minimum voltage of the analog ramp. Please select the desired value of the maximum voltage of the analog ramp. (This is the "span" value) The maximum value is restricted by the minimum value. (step #6)	Range: 0.0 to 10.0 Volt Increment: 0.1 Volt Default value: 10.0 Volt






Step	Display	Description	Values
8		<p>Change over sensor selection: Display shows "CH OVER TEMPER SENSOR". Please select which sensor is rewired to the analog input: SENs (external change over sensor), NoCl (change over contact normally cool) or NoHt (change over contact normally heat). When normally cool "NoCl" is selected, if contact is closed heating mode will be activated, if contact is opened cooling mode will be activated. When normally heat "NoHt" is selected, if contact is closed cooling mode will be activated, if contact is opened heating mode will be activated. When change over external sensor "SENs" is selected, heating mode will be activated when temperature read by external sensor is above the Change Over Set Point temperature, and cooling mode will be activated when temperature read by external sensor is under, see step #9. If "SENs" is not selected, go directly to step #16.</p>	 Default value: SENs
9		<p>Change over set point temperature: (If "SENs" has been selected at step #8) Display shows "CH OVER SETPNT TEMPER" and the change over set point temperature. Please select the change over set point temperature. Note: heating mode will be activated when temperature read by external sensor is above the change over set point temperature, and cooling mode will be activated when temperature read by external sensor is under. Go to step #16.</p>	Range: 10 to 40°C [50 to 104°F] Increment: 0.5°C [1°F] Default value: 24°C [82°F]
10		<p>Set signal for 4 pipe heating system: (If "4P" has been selected at step #3) Display shows "SELECT 4 PIPE HEATING SIGNAL". Heating symbols is also displayed. Select which heating signal output you want for your 4 pipe system. You can choose analog, on/off or pulse output. If you select analog, AO2 will be set in heating. If you select on/off or pulse, TO2 will be set in heating. If you have selected on/off or pulse signal, go directly to step #13.</p>	 Default value: On/Off
11		<p>Minimum voltage of the heating output: Display shows "MIN VOC ANALOG OUTPUT HEATING" and the value of the minimum voltage of the heating ramp. Please select the desired value of the minimum voltage of the heating ramp. (This is the "zero" value) The minimum value is restricted by the maximum value. (step #12)</p>	Range: 0.0 to 10.0 Volt Increment: 0.1 Volt Default value: 0.0 Volt
12		<p>Maximum voltage of the heating output: Display shows "MAX VOC ANALOG OUTPUT HEATING" and the value of the minimum voltage of the heating ramp. Please select the desired value of the maximum voltage of the heating ramp. (This is the "span" value) The maximum value is restricted by the minimum value. (step #11)</p>	Range: 0.0 to 10.0 Volt Increment: 0.1 Volt Default value: 10.0 Volt
13		<p>Set signal for 4 pipe cooling system: (If "4P" has been selected at step #3) Display shows "SELECT 4 PIPE COOLING SIGNAL". Cooling symbols is also displayed. Select which cooling signal output you want for your 4 pipe system. You can choose analog or on/off output. If you select analog, AO1 will be set in cooling. If you select on/off, TO1 will be set in cooling. If you have selected on/off signal, go directly to step #16.</p>	 Default value: On/Off
14		<p>Minimum voltage of the cooling output: Display shows "MIN VOC ANALOG OUTPUT COOLING" and the value of the minimum voltage of the cooling ramp. Please select the desired value of the minimum voltage of the cooling ramp. (This is the "zero" value) The minimum value is restricted by the maximum value. (step #15)</p>	Range: 0.0 to 10.0 Volt Increment: 0.1 Volt Default value: 0.0 Volt
15		<p>Maximum voltage of the cooling output: Display shows "MAX VOC ANALOG OUTPUT COOLING" and the value of the minimum voltage of the cooling ramp. Please select the desired value of the maximum voltage of the cooling ramp. (This is the "span" value) The maximum value is restricted by the minimum value. (step #14)</p>	Range: 0.0 to 10.0 Volt Increment: 0.1 Volt Default value: 10.0 Volt




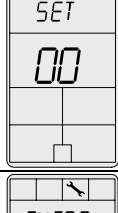
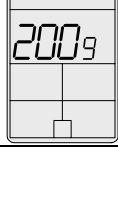
Step	Display	Description	Values
16		<p>Set local reheat signal</p> <p>Display shows "SET LOCAL REHEAT SIGNAL". Heating symbol is also displayed.</p> <p>Select which signal output you want for reheat.</p> <p>You can choose OFF (no signal selected), ANALOG heating only, ANALOG heating & fan, ON/OFF heating only, ON/OFF heating & fan, PULSE heating only, PULSE heating & fan output.</p> <p>If you select analog (& fan), AO3 will be set in reheat.</p> <p>If you select on/off (& fan) or pulse (& fan), TO3 will be set in reheat.</p> <p>If you have selected analog (& fan) signal, go directly to step #17.</p> <p>If you have selected on/off (& fan) or pulse (& fan) signal, go directly to step #19.</p> <p>If you have selected OFF, go directly to step #21.</p>	 <p>Default value: Off</p>
17		<p>Minimum voltage of the reheat output:</p> <p>Display shows "MIN VOC ANALOG OUTPUT REHEAT" and the value of the minimum voltage of the reheat ramp.</p> <p>Please select the desired value of the minimum voltage of the reheat ramp. (This is the "zero" value)</p> <p>The minimum value is restricted by the maximum value. (step #18)</p>	<p>Range: 0.0 to 10.0 Volt</p> <p>Increment: 0.1 Volt</p> <p>Default value: 0.0 Volt</p>
18		<p>Maximum voltage of the reheat output:</p> <p>Display shows "MAX VOC ANALOG OUTPUT REHEAT" and the value of the minimum voltage of the reheat ramp.</p> <p>Please select the desired value of the maximum voltage of the reheat ramp. (This is the "span" value)</p> <p>The maximum value is restricted by the minimum value. (step #17)</p>	<p>Range: 0.0 to 10.0 Volt</p> <p>Increment: 0.1 Volt</p> <p>Default value: 10.0 Volt</p>
19		<p>Reheat proportional band:</p> <p>Display shows "CONTROL RAMP REHEAT" and the value of the reheat proportional band, heating symbol is also displayed.</p> <p>Please select the desired value of reheat proportional band.</p>	<p>Proportional band range : 0.5 to 5.0°C [1 to 10°F]</p> <p>Increment: 0.5°C [1°F]</p> <p>Default value: 2.0°C [4°F]</p>
20		<p>Reheat dead band:</p> <p>Display shows "CONTROL DEAD BAND REHEAT" and the value of the reheat dead band, heating symbol is also displayed.</p> <p>Please select the desired value of reheat dead band.</p>	<p>Dead band range : 0.3 to 5.0°C [0.6 to 10.0°F]</p> <p>Increment: 0.1°C [0.2°F]</p> <p>Default value: 0.3°C [0.6°F]</p>
21		<p>Proportional band in heating:</p> <p>Display shows "CONTROL RAMP HEATING" and the value of the heating proportional band, heating symbol is also displayed.</p> <p>Please select the desired value of heating proportional band.</p>	<p>Proportional band range : 0.5 to 5.0°C [1 to 10°F]</p> <p>Increment: 0.5°C [1°F]</p> <p>Default value: 2.0°C [4°F]</p>
22		<p>Proportional band in cooling:</p> <p>Display shows "CONTROL RAMP COOLING" and the value of the cooling proportional band, cooling symbol is also displayed.</p> <p>Please select the desired value of cooling proportional band.</p>	<p>Proportional band range : 0.5 to 5.0°C [1 to 10°F]</p> <p>Increment: 0.5°C [1°F]</p> <p>Default value: 2.0°C [4°F]</p>
23		<p>Dead band in heating:</p> <p>Display shows "CONTROL DEAD BAND HEATING" and the value of the heating dead band, heating symbol is also displayed.</p> <p>Please select the desired value of heating dead band.</p>	<p>Dead band range : 0.3 to 5.0°C [0.6 to 10.0°F]</p> <p>Increment: 0.1°C [0.2°F]</p> <p>Default value: 0.3°C [0.6°F]</p>

Step	Display	Description	Values
24		Dead band in cooling: Display shows "CONTROL DEAD BAND COOLING" and the value of the cooling dead band, cooling symbol is also displayed. Please select the desired value of cooling dead band.	Dead band range : 0.3 to 5.0°C [0.6 to 10.0°F] Increment: 0.1°C [0.2°F] Default value: 0.3°C [0.6°F]
25		Anti-cycling delay cooling contact (protection for compressor): Display shows "COOLING ANTI CYCLE MINUTES" and the value (in minutes) of the delay to activate / reactivate cooling contact. Please select the desired value of the delay cooling contact.	Range: 0 to 15 min. Increment: 1 min. Default value: 2 min.
26		Integration time factor setting: Display shows "ADJUST INTEGRAL TIME IN SECONDS" and the time in seconds for the integration factor compensation. Please select the desired value of the integration factor compensation.	Range: 0 to 250 seconds Increment: 5 seconds Default value: 0 seconds
27		Fan damping factor setting: Display shows "ADJUST DAMPING FACTOR SECONDS" and the time in seconds for the damping factor which will slow down the effect in change of demand for fan speed. Please select the desired value of the damping factor.	Range: 0 to 10 seconds Increment: 1 seconds Default value: 0 seconds
28		Fan speed signal: Display shows "SELECT FAN SPEED SIGNAL" and the speed of the fan. Fan symbol is also displayed. Select which fan speed signal or quantity of contact you want: Analog signal, 1 speed, 2 speed or 3 speed. If you want to use 1, 2 or 3 fan contact, select speed desired and go directly to step #31.	 Default value: 3 fan speed contact
29		Minimum voltage of the fan output: Display shows "MIN VDC ANALOG OUTPUT FAN" and the value of the minimum voltage of the fan ramp. Please select the desired value of the minimum voltage of the fan ramp. (This is the "zero" value) The minimum value is restricted by the maximum value. (step #30)	Range: 0.0 to 10.0 Volt Increment: 0.1 Volt Default value: 0.0 Volt
30		Maximum voltage of the fan output: Display shows "MAX VDC ANALOG OUTPUT FAN" and the value of the minimum voltage of the fan ramp. Please select the desired value of the maximum voltage of the fan ramp. (This is the "span" value) The maximum value is restricted by the minimum value. (step #29)	Range: 0.0 to 10.0 Volt Increment: 0.1 Volt Default value: 10.0 Volt
31		Set fan speed automatic mode enable or disable: Display shows "ENABLE FAN AUTO MODE". Fan symbol is also displayed. You can enable or disable the Automatic mode adjustment by end user. If you selected to disable the automatic mode, go directly to step #33.	 Default value: Enable (YES)
32		Time out fan contact: Display shows "FAN AUTO TIMEOUT MINUTES" and the automatic shutoff delay value (in minutes) when there is no demand. Please select the desired value of the automatic shutoff delay.	Range: 0 to 15 min. Increment: 1 min. Default value: 2 min.

Step	Display	Description	Values
33		External sensor selection: Display shows "EXTERN SENSOR TEMPER". Please select which sensor is rewired to the analog input: OFF (input none rewired), t10.0 (external temperature sensor 10.0 KΩ) When nothing "OFF" is selected, the thermostat is controlled by is internal temperature sensor. When external sensor "t10.0" is selected, the thermostat is controlled by an external temperature sensor. If you have selected OFF, go directly to step #1.	 Default value: Off
34		External temperature sensor Calibration: Display shows "EXTERN TEMPER SENSOR OFFSET" and temperature read by external temperature sensor. If the sensor is not connected or short circuited, the display shows "Error". You can adjust the calibration of the external sensor by comparison with a known thermometer.	Range: 0 to 50°C [41 to 122.0°F] (max. offset ± 5 °C) Increment: 0.1°C [0.2°F]
35		Enable or disable anti-freeze protection: Display shows "ENABLE ANTI FREEZE PROTECT". You can enable or disable the Anti-freeze function. When enabled, if temperature drop to 4°C [39°F], heat and reheat will start even if thermostat is in OFF mode. Heat and reheat will stop when temperature reach 5°C [41°F].	 Default value: Disable (NO)

Scheduling Mode (Available when in Operation Mode; JP3 set on RUN)









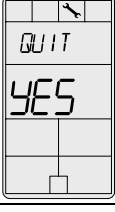

Push the  button for 5 seconds to access the user schedule menu. When in this mode, this symbol  is displayed. Press on the  button to advance to the next program function, press on the  button to return to previous step and press on the  button to change value. The system will exit the menus and return to normal function if you navigate through the entire menu or if no button is pressed for 5 minutes, changed values will be saved.

Step	Display	Description	Values
1		Time display format: Display shows "SET TIME DISPLAY FORMAT" and the format; 12 or 24 hour. If 12 hour format is selected AM or PM symbols are also displayed.	 Default value: 24
2A		Actual time setting: Display shows "SET HOURS" and the value of the actual hour. Use the arrows to set the actual time (hour).	Range: 00 to 23 hour Increment: 1 hour
2B		Actual time setting (cont'd): Display shows "SET MINUTES" and the value of the actual minute. Use the arrows to set the actual time (minute).	Range: 00 to 59 min. Increment: 1 min.
2C		Actual day setting: Display shows "ENTER YEAR". Please select the actual date (year).	Range: 2000 to 2099 year Increment: 1 year Default value: 2009 year



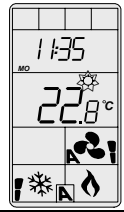






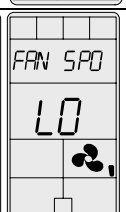


Step	Display	Description	Values
2D		Actual day setting (cont'd): Display shows "ENTER MONTH". Use the arrows to set the actual date (month).	Range: 01 to 12 month Increment: 1 month
2E		Actual day setting (cont'd): Display shows "ENTER DAY". Use the arrows to set the actual date (day)	Range: 01 to 31 day Increment: 1 day
3		Used scheduling: Display shows "USED TIME SCHEDUL" and the status of the function. If you do not need a schedule, select No and go to the next step. If you want to set a schedule, select YES and go directly to step #5 .	 Default value: Yes
4		Adjust internal set point: Display shows "ADJUST INTERN SETPNT" and the set point temperature. Select the desired set point temperature; this one should be within the temperature range. Go directly to step #10.	Set point range: 10 to 40°C [50 to 104°F] Increment: 0.5°C [1°F] Default value: 22°C [72°F]
5		Number of events/day: Display shows "SELECT 2 OR 4 EVENTS PER DAY". You can select 2 events ☀️, 🌙 or 4 events ☀️, ☀️, 🌙, 🌙 per day. Your selection will be applied for each day of the week. If you selected 4 events, go directly to step #8.	 Default value: 2 events
6A		Monday schedule programming Event 1: Display shows "6:00:" and E1 . MO and sun symbols are also displayed. Note: Monday Event 1 temperature setting will be effective between the time set at this step until the time set for Monday Event 2. Set the Monday Event 1 start time.	Range: 00:00 to Monday Event 2 start time -15 minutes Increment: 15 minutes Default value: 6:00
6B		Monday schedule programming Event 1 cooling setpoint: Display shows "ADJUST EVENT 1 COOLING SETPNT" and the value of the cooling set point temperature during this period. MO , sun and cooling symbols are also displayed. Select the desired cooling temperature set point for the Event 1 period. The minimum value is restricted by the Event 1 heating set point. (step # 6C) If Off is selected, the thermostat will be in off mode during this period. (If Off is selected, skip to Step #6D)	Set point range: 10 to 40°C [50 to 104°F] or Off Increment: 0.5°C [1°F] Default value: 22°C [72°F]
6C		Monday schedule programming Event 1 heating set point: Display shows "ADJUST EVENT 1 HEATING SETPNT" and the value of the heating set point temperature during this period. MO , sun and heating symbols are also displayed. Select the desired heating set point temperature for the Event 1 period. The maximum value is restricted by the Event 1 cooling set point. (step # 6B)	Set point range: 10 to 40°C [50 to 104°F] Increment: 0.5°C [1°F] Default value: 20°C [68°F]
6D		Monday schedule programming Event 2: Display shows "20:00:" and E2 . MO and moon symbols are also displayed. Note: Event 2 temperature setting will be effective between the time set at this step until the time set for Tuesday Event 1. Select the time you wish Event 2 to begin for Monday.	Range: Monday Event 1 +15 minutes to Monday 23:45 Increment: 15 minutes Default value: 20:00

Step	Display	Description	Values
6E		Monday schedule programming Event 2 cooling set point: Display shows "ADJUST EVENT 2 COOLING SETPNT" and the value of the cooling set point temperature during this period. MO , moon and cooling symbols are also displayed. Select the desired cooling temperature set point for the Event 2 period. The minimum value is restricted by the Event 2 heating set point. (step # 6F) If Off is selected, the thermostat will be in off mode during this period. (If Off is selected, skip to Step #7)	Set point range: 10 to 40°C [50 to 104°F] or Off Increment: 0.5°C [1°F] Default value: 28°C [72°F]
6F		Monday schedule programming Event 2 heating set point: Display shows "ADJUST EVENT 2 HEATING SETPNT" and the value of the heating set point temperature during this period. MO , moon and heating symbols are also displayed. Please select the desired heating set point temperature for the Event 2 period. The maximum value is restricted by the Event 2 cooling set point. (step # 6E)	Set point range: 10 to 40°C [50 to 104°F] Increment: 0.5°C [1°F] Default value: 16°C [68°F]
7		Copy schedule: Display shows "COPY SCHEDULE". You can copy the schedule from a previously programmed day to another day. Day programmed will appear and day to copy to will flash. If many days have been programmed, you can select the day you want to copy. If you want to copy, select "YES", If you don't want to copy, select "NO". Ex.: for Wednesday scheduling, you can press on the Δ or ∇ button to choose between MO "YES", TU "YES", MO TU "NO" If you have selected "NO" repeat step #6 with the new day. Repeat this step with all the day. If you go back in the menu, you can see the entire scheduling step #6 even if you copied before. This operation enables you to revise your value or to modify some parameters. When every day has a schedule established, Go directly to step #10.	Ex.: for Wednesday Default value: NO
8A		Monday schedule programming Event 1: (If "4" events was selected at step #4) Display shows "06:00:" and E1 . MO and half sun symbols are also displayed. Note: Monday Event 1 temperature setting will be effective between the time set at this step until the time set for Monday Event 2. Set the Monday Event 1 start time.	Range: 00:00 to Monday Event 2 start time -15 minutes Increment: 15 minutes Default value: 06:00
8B		Monday schedule programming Event 1 cooling set point: Display shows "ADJUST EVENT 1 COOLING SETPNT" and the value of the cooling set point temperature for this period. MO , half sun and cooling symbols are also displayed. Select the desired cooling set point temperature for the Event 1 period. The minimum value is restricted by the Event 1 heating set point. (step # 8C) If Off is selected, the thermostat will be in off mode during this period. (If Off is selected, skip to Step #8D)	Set point range: 10 to 40°C [50 to 104°F] or Off Increment: 0.5°C [1°F] Default value: 22°C [72°F]
8C		Monday schedule programming Event 1 heating set point: Display shows "ADJUST EVENT 1 HEATING SETPNT" and the value of the heating set point temperature for this period. MO , half sun and heating symbols are also displayed. Select the desired heating set point temperature for the Event 1 period. The maximum value is restricted by the Event 1 cooling set point. (step # 8B)	Set point range: 10 to 40°C [50 to 104°F] Increment: 0.5°C [1°F] Default value: 20°C [68°F]
8D		Monday schedule programming Event 2: Display shows "20:00:" and E2 . MO and sun symbols are also displayed. Note: Event 2 temperature setting will be effective between the time set at this step until the time set for Monday Event 3. Select the time you wish Event 2 to begin for Monday.	Range: Monday Event 1 start time +15 minutes to Event 3 start time -15 minutes Increment: 15 minutes Default value: 20:00
8E		Monday schedule programming Event 2 cooling set point: Display shows "ADJUST EVENT 2 COOLING SETPNT" and the value of the cooling set point temperature during this period. MO , sun and cooling symbols are also displayed. Select the desired cooling temperature set point for the Event 2 period. The minimum value is restricted by the Event 2 heating set point. (step # 8F) If Off is selected, the thermostat will be in off mode during this period. (If Off is selected, skip to Step #8G)	Set point range: 10 to 40°C [50 to 104°F] or Off Increment: 0.5°C [1°F] Default value: 28°C [72°F]

Step	Display	Description	Values
8F		Monday schedule programming Event 2 heating set point: Display shows "ADJUST EVENT 2 HEATING SETPNT" and the value of the heating set point temperature during this period. MO , sun and heating symbols are also displayed. Please select the desired heating set point temperature for the Event 2 period. The maximum value is restricted by the Event 2 cooling set point. (step # 8E)	Set point range: 10 to 40°C [50 to 104°F] Increment: 0.5°C [1°F] Default value: 16°C [68°F]
8G		Monday schedule programming Event 3: Display shows "22:00:" and E3 . MO , half sun and moon symbols are also displayed. Note: Event 3 temperature setting will be effective between the time set at this step until the time set for Monday Event 4. Select the time you wish Event 3 to begin for Monday.	Range: Monday Event 2 start time +15 minutes to Event 4 start time -15 minutes Increment: 15 minutes Default value: 22:00
8H		Monday schedule programming Event 3 cooling set point: Display shows "ADJUST EVENT 3 COOLING SETPNT" and the value of the cooling set point temperature during this period. MO , half sun, moon and cooling symbols are also displayed. Select the desired cooling temperature set point for the Event 3 period. The minimum value is restricted by the Event 3 heating set point. (step # 8I) If Off is selected, the thermostat will be in off mode during this period. (If Off is selected, skip to Step #8J)	Set point range: 10 to 40°C [50 to 104°F] or Off Increment: 0.5°C [1°F] Default value: 22°C [72°F]
8I		Monday schedule programming Event 3 heating set point: Display shows "ADJUST EVENT 3 HEATING SETPNT" and the value of the heating set point temperature during this period. MO , half sun, moon and heating symbols are also displayed. Select the desired heating set point temperature for the Event 3 period. The maximum value is restricted by the Event 3 cooling set point. (step # 8H)	Set point range: 10 to 40°C [50 to 104°F] Increment: 0.5°C [1°F] Default value: 20°C [68°F]
8J		Monday schedule programming Event 4: Display shows "23:45:" and E4 . MO and moon symbols are also displayed. Note: Event 4 temperature setting will be effective between the time set at this step until the time set for Tuesday Event 1. Please select the time you wish Event 4 to begin for Monday.	Range: Monday Event 3 +15 minutes to Monday 23:45 Increment: 15 minutes Default value: 23:45
8K		Monday schedule programming Event 4 cooling set point: Display shows "ADJUST EVENT 4 COOLING SETPNT" and the value of the cooling set point temperature during this period. MO , moon and cooling symbols are also displayed. Select the desired cooling temperature set point for the Event 4 period. The minimum value is restricted by the Event 4 heating set point. (step # 8L) If Off is selected, the thermostat will be in off mode during this period. (If Off is selected, skip to Step #9)	Set point range: 10 to 40°C [50 to 104°F] or Off Increment: 0.5°C [1°F] Default value: 28°C [72°F]
8L		Monday schedule programming Event 4 heating set point: Display shows "ADJUST EVENT 4 HEATING SETPNT" and the value of the heating set point temperature during this period. MO , moon and heating symbols are also displayed. Please select the desired heating set point temperature for the Event 4 period. The maximum value is restricted by the Event 4 cooling set point. (step # 8K)	Set point range: 10 to 40°C [50 to 104°F] Increment: 0.5°C [1°F] Default value: 16°C [68°F]
9		Copy schedule: Display shows "COPY SCHEDULE". You can copy the schedule from a previously programmed day to another day. Day programmed will appear and day to copy to will flash. If many days have been programmed, you can select the day you want to copy. If you want to copy, select "YES", If you don't want to copy, select "NO". Ex.: for Wednesday scheduling, you can press on the Δ or ∇ button to choose between MO "YES", TU "YES", MO TU "NO" If you have selected "NO" repeat step #8 with the new day. Repeat this step with all the day. If you go back in the menu, you can see the entire scheduling step #8 even if you copied before. This operation enables you to revise your value or to modify some parameters When every day has a schedule established, Go to step #10.	Ex.: for Wednesday Default value: NO

Step	Display	Description	Values
10		Locking the set point derogation: Display shows "USER SETPOINT OVERRIDE LOCKED" and the status of the function. You can lock or unlock the set point derogation by end user. If locked, "YES" and lock symbol will appear and user can't derogate the set point.	 <i>Default value: Unlocked (NO)</i>
11		Adjust the control mode: Display shows "ADJUST TEMPER CONTROL MODE". Cooling and heating symbols are also displayed. Select which control mode you want to authorize: Automatic cooling and heating, cooling or heating, heating only or cooling only. If you want to authorize this entire mode, choose Automatic mode.	   <i>Default value: Automatic cooling and heating</i>
12		Locking the control mode: Display shows "USER CONTROL MODE LOCKED" and the status of the function. You can lock or unlock the control mode by end user. If locked, "YES" and lock symbol will appear and user can't derogate the control mode.	 <i>Default value: Unlocked (NO)</i>
13		Quit scheduling mode Display shows "QUIT" and the status of the function. If you want to revise your schedule, select No and go directly to step #1 of scheduling menu. If you want to quit the, select YES and you will leave the scheduling menu and will return to operation mode.	 <i>Default value: Yes</i>

Operation Mode

Step	Description	Display
A	<p>At powering up, thermostat will light display and activate all LCD segments during 2 seconds.</p> <p>Illuminating the LCD.</p> <p>To illuminate the LCD, you just have to push onto any of the 4 buttons. LCD will light for 4 seconds.</p> <p>Temperature display</p> <p>In operation mode, thermostat will automatically display temperature read.</p> <p>If "OFF", "--" and alarm symbol are displayed, the temperature sensor is not connected or short circuited.</p> <p>To change the scale between °C and °F, press on both Δ and ∇ for 3 seconds.</p>	
B	<p>Temperature set point display and adjustment:</p> <p>To display the set point, press two times on Δ or ∇. Set point will be displayed during 3 seconds.</p> <p>To adjust set point, press on Δ or ∇ while the temperature set point is displayed.</p> <p>Scheduling setpoint derogation</p> <p>If you have set a schedule, the set point will be modified until the next event comes on.</p> <p>When thermostat is in operation mode, event symbol is displayed, so set point for cooling and/or heating match to the setting made in scheduling mode.</p> <p>If not locked, set point can be derogated for a event period by pressing onto Δ or ∇ buttons.</p> <p>During period of derogation the event symbol will flash. If event symbol does not flash, the derogation period is finished or the no occupancy mode derogation has been locked in programming mode.</p> <p>If locked, "SETPNT LOCKED" and lock symbol will appear.</p>	  
C	<p>Control mode selection :</p> <p>To change the control mode, press on \odot/Δ. Control mode will be displayed during 5 seconds. You can choose one of the following:</p> <ul style="list-style-type: none"> ✓ Automatic Cooling or Heating ✓ Cooling and Heating OFF ✓ Cooling only ✓ Heating only <p>To turn off thermostat, press on \odot/Δ and select OFF. All the functions will stop.</p> <p><i>Note: These selections can vary according to the choice made on step #2 of programming mode & step #11 of scheduling mode.</i></p>	   
D	<p>Fan speed mode selection:</p> <p>To change the fan speed mode, press on \odot/Δ. Fan speed mode will be displayed during 5 seconds. You can choose one of the following:</p> <ul style="list-style-type: none"> ✓ Automatic speed ✓ Low speed ✓ Medium speed ✓ High speed <p><i>Note: These selections can vary according to the choice made on step #28 & #31.</i></p>	   

Recycling at end of life



At end of life, please return the thermostat to your Neptronic® local distributor for recycling. If you need to find the nearest Neptronic® authorized distributor, please consult www.neptronic.com.