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AquaHeat
33550 Controller Technical Data Sheet
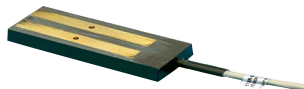
Snow Melting System Application

33550 is a 24 volt snowmelting controller capable of switching an outdoor heating system on/off based on temperature and precipitation. Snow melt controller applications can include snow removal in walkways, steps, driveways, garage entrances, gutters, loading docks or othe locations where snow and ice accumulation is a problem. 33550 detect's outdoor temperature, ground temperature, moisture, and energizes electrical relays when snow or ice occurs. The systems heat source can be either hydronic or electric heating cables (with the use of an external relay).

Features:
* Electronic on/off, Detects moisture and temperature, or temperature only
* Choice of ground, gutter, or outdoor sensor
* Several sensors can be connected to the controller
* Any detector will activate all three relay outputs
* Built in timer for manual snow melting
* Optional external timer to start system
* Remote switch activation

33550 Controller	
Mounting	Interior wall surface
Dimensions (W/ cover)	6.7 X 6.6 X 2"
Supply voltage	24 V AC $^{+/-}$ 10%
Output relays	3 Relays 10-A, 10-A, 16-A (potential free contacts)
On/off Differential	$0.6^{\circ}F$
Ambeint temperature	$+32 / +122^{\circ}F$
Temperature range	$+32 / +41^{\circ}F$
Built in timer	1-6, For manual snow melting
Detection mode (moist control)	ON: Moisture & tempurature sensing OFF: Tempurature only
LEDs Indicate the functions	ON: Supply voltage to thermostat Relay: The relays are energized Moist: Moisture on 33551 Temp: Outdoor tempuratureis below selected setting Timer: The built in timer is energized

33551 Pavement Sensor	
Detection	Moisture and ground temperature
Mounting	Flush to surface
Cable Length	33 ft.
Ambient Temperature	-4 to 158° F
Dimensions	H: 1 1/4" DIA. 2 3/8"

33553 Gutter Sensor	
Detection	Moisture
Mounting	Gutter or downspout, used in combination with the 33552 sensor
Cable Length	33 ft.
Ambient Temperature	-4 to 158° F
Dimensions	4 1/8" X 1 1/4" X 1/2"

33552 Outdoor Sensor	
Detection	Air temperature
Mounting	Exterior wall
Ambient Temperature	-4 to 158° F
Dimensions	3 3/8" X 1 3/4" X 1 3/8"

Dimensions

Multiple Sensor Use
etog,etor and etf sensors can be used seperately or together.The eto has the abilty to accept two similiar sensors, etog, etsr to the controller. This allows the placement of the sensors to areas where snow/ice accumlation is an issue

Manual or automatic operation
If mannual override for the start of the snow/ice melting system is required the TIMER START button can be pressed. This deactivates the sensor (s)connected to the controller and relies on theinternal timer that can be set from 1 - 6 hours. The manual operation of the controller can be acheived through aremote switch wired to the controller.

Settable run time
The TIME SET determines the length of time the system run during manual operation or during automatic operation the length of time the system will continue to operate after the sensor (s)detect no percipitiation. The period of time can be set between 1 to 6 hours.
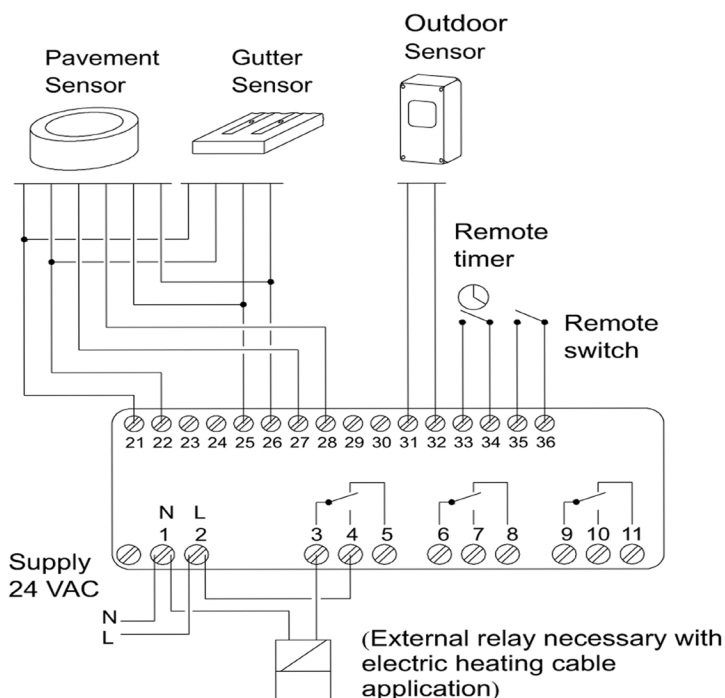
Settable Temperature for Activation of Controller
The TEMP SET on the controller determines at wthe outdoors for that temperature the controller would begin to monitor the outdoors for the automatic operation of the system.
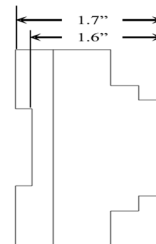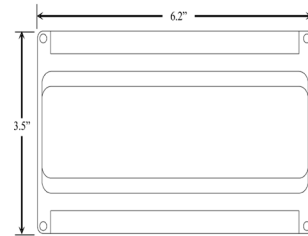
Remote Timer Ability
The option of an external timer can be wired to the controller signalling pre-determined periods when the system should start.
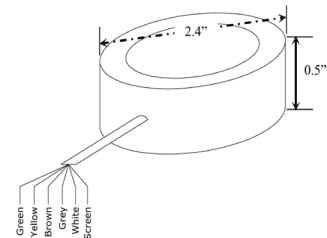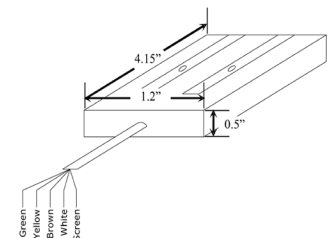
6.2"
3.5"

1.7"
1.6"

33550

2.4"
0.5"

Green Yellow Brown Grey White Screen

33551

Wiring Diagrams

4.15"
1.2"
0.5"

Green Yellow Brown White Screen

33553

Pavement Sensor   Gutter Sensor   Outdoor Sensor

Remote timer

Remote switch

21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36

N   L
1   2   3   4   5   6   7   8   9   10 11

Supply 24 VAC

N
L

(External relay necessary with electric heating cable application)

AQHT33550.TEC-4