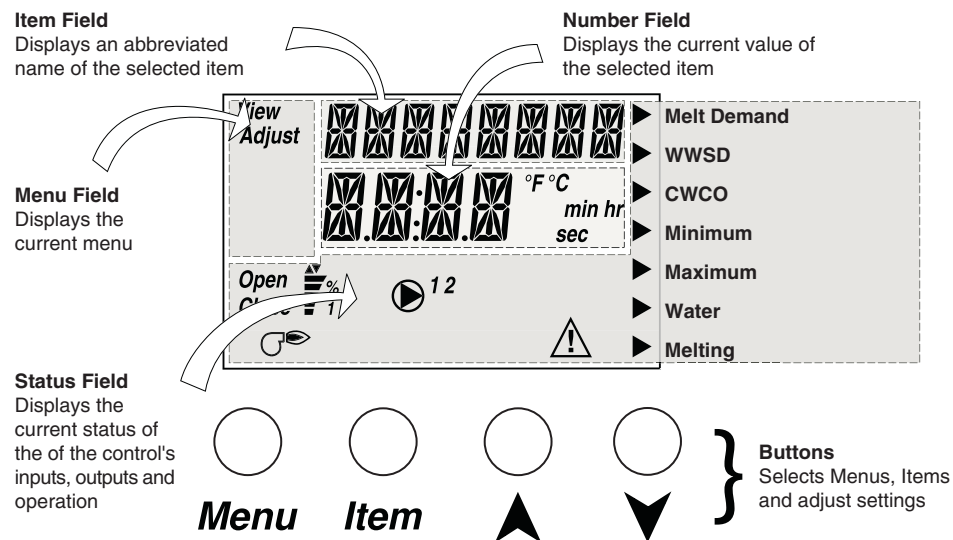


The Snow / Ice Detector & Melt Control 31667 is a microprocessor-based control which operates a single zone snow melting system. The control can operate automatically when a Snow / Ice Sensor 30090 is installed or the user can manually enable and / or disable the system. The 31667 controls a variable speed injection pump or a floating action mixing valve to provide both boiler and slab protection. When the control is not in the MELTING mode, the system can either be shut down or it can be maintained at an idle temperature for faster response and improved safety. The 31667 control includes a large Liquid Crystal Display (LCD) in order to view system status and operating information.

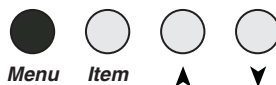
User Interface



The Mixing Control 31667 has a Liquid Crystal Display (LCD) and four push buttons (Menu, Item, ▲, ▼) which are used to view and adjust the settings.

Menu

All of the items displayed by the control are organized into various menus. These menus are listed on the left hand side of the display (Menu Field). To select a menu, use the *Menu* button. By pressing and releasing the *Menu* button, the display will advance to the next available menu. Once a menu is selected, there will be a group of items that can be viewed within that menu.



Item

The abbreviated name of the selected item will be displayed in the item field of the display. To view the next available item, press and release the *Item* button. Once you have reached the last available item in a menu, pressing and releasing the *Item* button will return the display to the first item in the selected menu.



Adjust

To make an adjustment to a setting in the control, begin by selecting the appropriate menu using the *Menu* button. Then select the desired item using the *Item* button. Finally, use the ▲ and / or ▼ button to make the adjustment.



Additional information can be gained by observing the Status and Pointer fields of the LCD. The status field will indicate which of the control's outputs are currently active. Most symbols in the status field are only visible when the View Menu is selected.

| | |
|--|--|
| | Mixing Device Output Scale Shows output of injection pump or mixing valve. Arrows show whether the output is increasing or decreasing. |
| | Pump Displays when the mixing system pump is in operation. |
| | Warning Displays when an error exists or a specific limit has been reached. |
| | Open / Close Displays when floating actuator is opening or closing. |
| | Burner Displays when the boiler relay is turned on. |
| | Pointer Displays the control operation as indicated by the text. |
| | °F °C min hr sec °F, °C, min, hr, sec Units of measurement. |

31667 View Menu

| Item Field | Description | Range |
|------------|--|---|
| OUT DOOR | Outdoor: Current outdoor air temperature as measured by the outdoor sensor. | -67 to 149°F (-55 to 65°C) |
| SLAB TRG | Slab Target: Slab sensor target temperature. | ---, -58 to 167°F (---, 50 to 75°C) |
| SLAB | Slab: Current slab sensor temperature. | -58 to 167°F (-50 to 75°C) |
| STATUS | Status: Operating status. | STRT, STOP, IDLE, EXT, 0:00 to 23:59 hr, ---, INF, WWSD, CWCO, DET |
| MIX TRG | Mix Target: The current mix target temperature as calculated by the control. | ---, -25 to 248°F (---, -32 to 120°C) |
| MIX SUP | Mix Supply: Current mixed supply water temperature as measured by the mixing supply sensor. | -31 to 266°F (-35 to 130°C) |
| MIX RET | Mix Return: Current mixed return water temperature as measured by the mixing return sensor. Mix Ret Sensor present | -58 to 167°F (-50 to 75°C) |
| ΔT | ΔT: Current mixed ΔT difference between the mixed supply sensor and the mixed return sensor. ΔT MAX ≠ OFF | -85 to 170°F (-65 to 75°C) |
| Boil SUP | Boil Supply: Current boiler supply water temperature as measured by the boiler sensor. Boil SENS = SUP | -31 to 266°F (-35 to 130°C) |
| Boil RET | Boil Return: Current boiler return water temperature as measured by the boiler sensor. Boil SENS = RET | -31 to 266°F (-35 to 130°C) |

31667 Adjust Menu

| Item Field | Description | Range | Actual Setting |
|------------|--|---|----------------|
| RUN TIME | Run Time: The time for which the zone is operated once it has reached its melting temperature. This item cannot be viewed if a Remote Start / Stop Module 31039 has been connected. | 0:30 to 17:00 hr, INF (Infinity) Default = 4:00 hr | |
| ADD MELT | Add Melt: The additional time for which the zone is operated once the Snow / Ice Sensor 30090 becomes dry. Sensor 30090 present | 0:00 to 6:00 hr, Default = 0:30 hr | |
| SENSITVITY | Sensitivity: Sensitivity of water detection of the Snow / Ice Sensor 30090. Sensor 30090 present | AUTO, 20 to 80% Default = AUTO | |
| MELTING | Melting: The desired slab surface temperature while in the Melting Mode. | 32 to 95°F (0 to 35°C) Default = 36°F (2°C) | |
| IDLING | Idling: The desired slab surface temperature while in the Idling Mode. | OFF, 20 to 95°F (OFF, -7 to 35°C) Default = OFF | |
| WWSD | WWSD: Warm Weather Shut Down. | AUTO, 32 to 95°F (AUTO, 0 to 35°C) Default = AUTO | |
| CWCO | Cold Weather Cut Out: The Cold Weather Cut Out temperature for the snow melting system. | -30 to 50°F (-34 to 10°C) Default = 10°F (-12°C) | |
| MIX MAX | Mix Max: The maximum supply water temperature for the mixing system. | 80 to 210°F, OFF (27 to 99°C, OFF) Default = 150°F (66°C) | |
| MIXING | Mixing: The type of mixing device that is to be used. | FLOT (Floating) VAR (Variable Speed), Default = VAR | |
| MOTR SPD | Motor Speed: The time the actuating motor requires to operate from fully closed to fully open. MIXING = FLOT | 30 to 230 seconds Default = 150 seconds | |
| Boil SENS | Boil Sensor: The location of the boiler sensor. This affects operation of the Boiler contact. | SUP, RET, NONE Default = SUP | |
| ΔT MAX | ΔT Maximum: The maximum ΔT for the snow melting system. | 10 to 70°F, OFF (6 to 39°C, OFF) Default = OFF | |
| DIFF | Differential: The differential for the snow melting system. Boil SENS = SUP | AUTO, 2 to 42°F (AUTO, 1 to 23°C) Default = AUTO | |
| Boil MIN | Boil Minimum: The minimum temperature allowed for the boiler target temperature. Boil SENS ≠ NONE | OFF, 80 to 180°F (OFF, 27 to 82°C) Default = 140° (60°C) | |
| FIRE DLY | Fire Delay: The time delay the control can expect between the time the Boiler contact closes and the boiler fires. Boil SENS = SUP | 0:00 to 3:00 minutes Default = 0:10 min | |
| Boil MASS | Boil Mass: The thermal mass characteristics of the boiler that is being used. Boil SENS = SUP | LITE, MED, HEVY Default = MED | |
| EXERCISE | Exercise: The frequency with which the control exercises the pumps and valves that are operated by the control. | 30 to 240 hours, (in 10 hour steps) Default = 70 hr | |
| UNITS | Units: The units of measure that all of the temperatures are to be displayed in by the control. | °F, °C Default = °F | |

