

tekmar® - User Brochure

Universal Reset Control 363

U 363

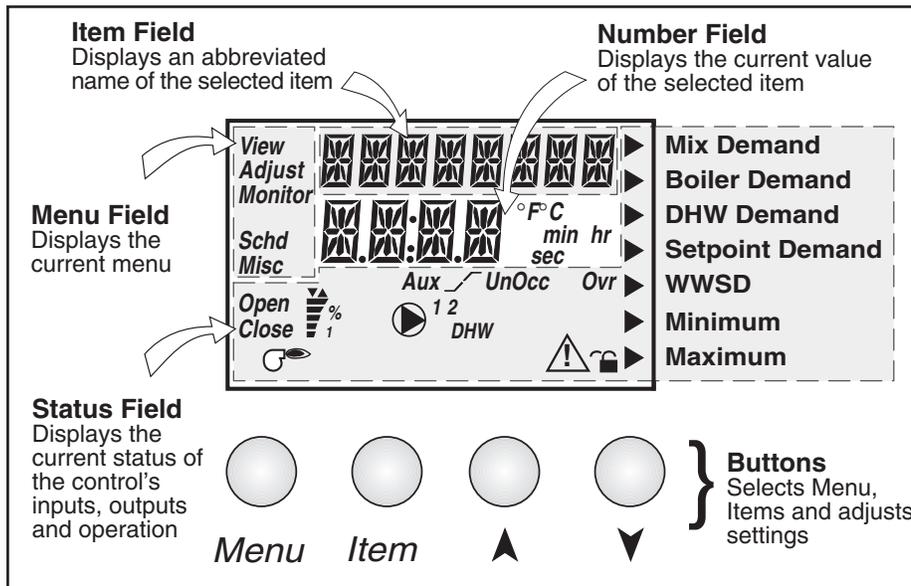
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The Universal Reset Control 363 is a microprocessor based control designed to maximize the comfort and efficiency provided by a hydronic heating system. The control automatically adjusts the boiler and mixed loop water temperatures that are delivered to the heating system by using an outdoor reset. Outdoor reset increases the water temperature in the heating system as the outdoor temperature becomes colder. Outdoor reset also increases the energy efficiency of the heating system by not allowing more heat into the building than the building normally loses to the outside. Another benefit of outdoor reset is the reduction of indoor temperature swings - especially in the fall and spring months. The 363 can intelligently integrate indirect fired Domestic Hot Water (DHW) and tekmar zone controls into the heating system.

User Interface

Access Level(s) The tekmar Universal Mixing Control 363 has four access levels which are **LTD** (limited), **USER**, **INST** (Installer), and **ADV** (advanced). This brochure only covers the **LTD** (Limited) and **USER** levels. Only qualified service people should make adjustments in the **INST** (Installer) and **ADV** (advanced) access levels.



The tekmar Universal Reset Control 363 has a Liquid Crystal Display (LCD) and four push buttons (*Menu*, *Item*, \blacktriangle , \blacktriangledown) 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 \blacktriangle and/or \blacktriangledown button to make the adjustment.

Additional information can be gained by observing the Status and Pointers 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.

	Open / Close Displays when the actuator is opening or closing the valve.
	Mixing Device Output Scale Shows output of injection pump or mixing valve. Arrows show whether the output is increasing or decreasing.
	Burner Displays when the boiler relay is turned on.
	Pump Displays boiler pump 1 and/or mixing pump 2 is operating.
	DHW Pump / Valve Displays when the DHW pump or valve is on.
	Storage Operation Displays when the variable speed driven injection pump is drawing heat from the storage tank.
	Boost Displays when the control is in boost after setback.
	UnOccupied Mode Displays when control is in unoccupied mode.
	Occupied Mode Displays when the control is in occupied mode.
	Override Displays when the control is in override mode.
	Warning Displays when an error exists or a limit has been reached.
	Lock - Unlock Displays whether access levels are locked or unlocked.
	Pointer Displays control operation as indicated by text.

°F, °C, sec, min, hr
°F, °C, sec, min, hr
Units of measurement.

Note: Depending on the settings the installer makes in the control, certain menu items may not appear.

Item	LTD	USER	363 View Menu	Range
OUTDOOR	●	●	Current outdoor air temperature as measured by the outdoor sensor. This is the default display for the control.	-67 to 149°F (-55 to 65°C)
ROOM TRG		●	Target room air temperature. "— — —" denotes no heat is required. Will not display if RTU is connected.	- - -, 35 to 100°F (2 to 38°C)
ROOM	●	●	Measured room air temperature at the indoor sensor. Will not display if RTU is connected.	-58 to 167°F (-50 to 75°C)
MIX SUP		●	Current mixed supply water temperature as measured by the mixing sensor.	-31 to 266°F (-35 to 130°C)
Boil SUP		●	Current boiler supply water temperature as measured by the boiler sensor.	-31 to 266°F (-35 to 130°C)
STORAGE	●	●	Current storage tank water temperature as measured by the storage tank sensor.	-31 to 266°F (-35 to 130°C)
DHW TRG		●	Target DHW tank temperature. This item can only be viewed if a tekmar sensor is used to measure the DHW tank temperature.	- - -, OFF, 70 to 190°F (21 to 88°C)
DHW	●	●	Current DHW tank temperature as measured by the DHW tank sensor.	-31 to 266°F (-35 to 130°C)

Item	LTD	USER	363 Adjust Menu	Range
MIX ROOM Occ	●	●	The desired room air temperature during an Occupied period for mixing zone(s). Will not display if RTU is connected. In LTD access level, this setting can only be adjusted $\pm 3^{\circ}\text{F}$ ($\pm 1^{\circ}\text{C}$).	35 to 100°F (2 to 38°C)
MIX ROOM UnOcc		●	The desired room air temperature during an UnOccupied period for mixing zone(s). Will not display if RTU is connected.	35 to 100°F (2 to 38°C)
SLAB MIN		●	The minimum temperature at the slab sensor, provided the control is not in Warm Weather Shut Down. This item can only be adjusted if a tekmar sensor is connected.	OFF, 35 to 120°F (2 to 49°C)
MIX SETB		●	Mixing Water Temperature Setback. The amount that the mixing supply temperature will be reduced when the control is in an UnOccupied mode.	0 to 50°F (0 to 28°C)
Boil ROOM Occ	●	●	The desired room air temperature during an Occupied period for the boiler zones in the heating system. In LTD access level, this setting can only be adjusted $\pm 3^{\circ}\text{F}$ ($\pm 1^{\circ}\text{C}$).	35 to 100°F (2 to 38°C)
Boil ROOM UnOcc		●	The desired room air temperature during an UnOccupied period for the boiler zone(s) in the heating system.	35 to 100°F (2 to 38°C)
Boil SETB		●	Boiler Water Temperature Setback. The amount that the boiler supply temperature will be reduced when the control is in an UnOccupied mode.	0 to 50°F (0 to 28°C)
DHW TANK Occ		●	The DHW storage tank's temperature during the Occupied period. This item can only be adjusted if a tekmar sensor is used to measure the DHW tank temperature.	OFF, 70 to 190°F (OFF, 21 to 88°C)
DHW TANK UnOcc		●	The DHW storage tank's temperature during the UnOccupied period. This item can only be adjusted if a tekmar sensor is used to measure the DHW tank temperature.	OFF, 70 to 190°F (21 to 88°C)
WWSO Occ		●	The system's warm weather shut down during the Occupied period.	35 to 100°F, OFF (2 to 38°C)
WWSO UnOcc		●	The system's warm weather shut down during the UnOccupied period.	35 to 100°F, OFF (2 to 38°C)

Note: Depending on the settings the installer make in the control, certain menu items may not appear.

Item	LTD	USER	363 Monitor Menu	Range
OUT HI	●	●	The highest outdoor air temperature recorded since this item was last cleared. To clear this item, press and hold the ▲ and ▼ buttons until 'CLR' is displayed.	-67 to 149°F (-55 to 65°C)
OUT LO	●	●	The lowest outdoor air temperature recorded since this item was last cleared. To clear this item, press and hold the ▲ and ▼ buttons until 'CLR' is displayed.	-67 to 149°F (-55 to 65°C)
TANK HI	●	●	The highest DHW tank or Storage tank temperature since this item was last cleared. To clear this item, press both the ▲ and ▼ buttons until 'CLR' is displayed.	0 to 255°F (-18 to 124°C)
TANK LO	●	●	The lowest DHW tank or Storage tank temperature since this item was last cleared. To clear this item, press both the ▲ and ▼ buttons until 'CLR' is displayed.	0 to 255°F (-18 to 124°C)

Item	LTD	USER	363 Schd (Schedule) Menu	Range
OVERRIDE	●	●	The type of setback override that is in effect. DIP switch = Setback AWAY is available even if DIP ≠ Setback	NONE, TMPY Occ, PERM Occ, TMPY UnOcc, PERM UnOcc, AWAY

None – No override. *TMPY Occ* – Overrides to Occupied setting for 3 hours. *PERM Occ* – Overrides to Occupied setting until new override is selected. *TMPY UnOcc* - Overrides to UnOccupied for 3 hours. *PERM UnOcc* – Overrides to UnOccupied setting until new override is selected. *AWAY* – Room & WWSD temperature at 62° F (17° C), no DHW.

Item	LTD	USER	363 Misc (Miscellaneous) Menu	Range
UNITS	●		The units of measure that all of the temperatures are to be displayed in by the control.	°F, °C
BACKLITE	●		The operating mode for the back lighting of the LCD and the time until the control returns to the view menu after any button was pressed. If Backlight is set to OFF , the control returns after 10 seconds and the backlight stays off. If Backlight is set to 30 SEC , the control returns after 30 seconds and the backlight stays on for 30 seconds after any button press. If Backlight is set to ON , the control returns after 90 seconds and the backlight stays on.	OFF, 30 sec, ON
ACCESS	●	●	The access level that is to be used by the control. DIP switch = ■ <i>Only qualified service people should adjust items in the ADV (Advance) and INST (Installer) access levels.</i>	ADV, INST, USER, LTD



Room Temperature Unit (RTU) 062, 063

A single RTU can be connected to the mixed side (tN1/tN2) of the Universal Reset Control 363 in order to provide a one zone mixed water temperature system. When multiple zones are required for the mixed side, use either a tekmar zone control or, through the mix demand input, on / off zone control. When using an RTU, several items related to the mixing side of the heating system are no longer available in the control's display. These items will be available only in the RTU's display. Also, the number of items that are available on the RTU will depend on the type of RTU (062 or 063) that is connected to the control.

Item	LTD	USER	062	063	363 RTU View Menu	Range
ROOM	●	●	●	●	Current room air temperature.	14 to 167°F (-10 to 75°C)
ROOM TRG	●	●	●	●	Target room air temperature.	35 to 100°F (2 to 38°C)
OUTDOOR	●	●	●	●	Current outdoor air temperature as measured by the outdoor sensor.	-67 to 149°F (-55 to 65°C)
SLAB	●	●	●	●	Current slab sensor temperature. This item is only available if a tekmar slab sensor is connected to a RTU 063.	-58 to 167°F (-50 to 75°C)

Note: Depending on the settings the installer makes in the control, certain menu items may not appear.

Item	LTD	USER	062	063	363 RTU Adjust Menu	Range
ROOM Occ	●	●	●	●	The desired room air temperature during an Occupied period for this mixing zone. In LTD access level, this setting can only be adjusted $\pm 3^{\circ}\text{F}$ ($\pm 1^{\circ}\text{C}$).	35 to 100°F (2 to 29°C)
ROOM UnOcc	●	●	●	●	The desired room air temperature during an UnOccupied period for this mixing zone. In LTD access level, this setting can only be adjusted $\pm 3^{\circ}\text{F}$ ($\pm 1^{\circ}\text{C}$).	35 to 100°F (2 to 29°C)
SLAB MIN		●	●		The minimum temperature desired at the slab sensor while the control is not in WWSD. This item can only be viewed if a tekmar slab sensor is connected to a RTU 063.	OFF, 35 to 120°F (2 to 49°C)

Item	LTD	USER	062	063	363 RTU Monitor Menu	Range
OUT HI	●	●	●	●	The highest outdoor air temperature recorded since this item was last cleared. To clear this item, press and hold the ▲ and ▼ buttons until 'CLR' is displayed.	-67 to 149°F (-55 to 65°C)
OUT LO	●	●	●	●	The lowest outdoor air temperature recorded since this item was last cleared. To clear this item, press and hold the ▲ and ▼ buttons until 'CLR' is displayed.	-67 to 149°F (-55 to 65°C)
ROOM HI		●	●	●	The highest room air temperature recorded since this item was last cleared. To clear this item, press and hold the ▲ and ▼ buttons until 'CLR' is displayed.	14 to 167°F (-10 to 75°C)
ROOM LO		●	●	●	The lowest room air temperature recorded since this item was last cleared. To clear this item, press and hold the ▲ and ▼ buttons until 'CLR' is displayed.	14 to 167°F (-10 to 75°C)

Item	LTD	USER	363 RTU Schd (Schedule) Menu		Range
OVERRIDE		●			NONE, TMPY Occ, PERM Occ, TMPY UnOcc, PERM UnOcc, AWAY

The type of setback override that is in effect. This menu and item can only be viewed if the *Setback / None* DIP switch is set to *Setback*.

None – No override. **TMPY Occ** – Overrides to Occupied setting for 3 hours. **PERM Occ** – Overrides to Occupied setting until new override is selected. **TMPY Unocc** – Overrides to Unoccupied for 3 hours. **PERM Unocc** – Overrides to Unoccupied setting until new override is selected. **AWAY** – Room & WWSD temperature at 62°F (17°C), no DHW.

Item	LTD	USER	062	063	363 RTU Misc (Miscellaneous) Menu	Range
UNITS		●	●	●	The units of measure that all of the temperatures are to be displayed in by the RTU.	°F, °C
BACKLITE		●	●	●	The operating mode for the back lighting of the LCD and the time until the control returns to the view menu after any button was pressed. If Backlight is set to OFF , the control returns after 10 seconds and the backlight stays off. If Backlight is set to 30 SEC , the control returns after 30 seconds and the backlight stays on for 30 seconds after any button press. If Backlight is set to ON , the control returns after 90 seconds and the backlight stays on.	OFF, 30 sec, ON
ACCESS	●	●	●	●	The access level that is to be used by the RTU. DIP switch =  Only qualified service people should adjust items in the ADV (Advance) and INST (Installer) access levels.	ADV, INST, USER, LTD

Remote Display Module (RDM)

An optional Remote Display Module can be connected to the 363 if an RTU is not used. All items displayed on the 363 menu will also be displayed on the remote module. Adjustments can be made from the Remote Display Module. This module is connected to the control through two wires and has the same physical appearance as an RTU.

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