RITC-15A

TEMPERATURE CONTROLLER
OPERATOR'S MANUAL

BASIC OPERATIONS

1. Turn power Switch on.
2. The normal operating modes are Ramp Start and Closed loop which are automatically selected on power up. Select Manual mode if needed, once selected the controller will power up in Manual mode until Ramp Start or Closed loop is selected.
3. Select setpoint temperature (or % power in manual mode) by using the up / down keys.
4. After making any changes to modes or the setpoint wait for 'str' to appear on the display. This indicates that the changes have been put into the non-volatile memory. The module will now remember these settings each time it is powered up.

CONTROLS AND DISPLAYS

1.Upper digital display - Displays:

- Process temperature
- Error Conditions
- Parameter number (Programming mode)

2.Decimal point - Indicating unit is displaying temperature in °C

3.Lower digital display - Displays:

- Setpoint
- Percent power applied to heater (Manual mode)
- Parameter values (Programming mode)
- Current (Amps mode)

4.Decimal point - Indicates that the display is showing percent power (Manual mode)

5.Decimal point - Indicates that the display is showing the output current (Amps mode)

6.Decimal point - Indicates that the unit is in standby

7.Under temperature indicator - Flashes when process temperature is below under temperature alarm limit. The under temperature alarm limit is adjustable from -5 to -30F via parameter # 6.

8.Open thermocouple indicator - Flashes when the unit detects an open thermocouple

9.Power to heater indicator - This is illuminated any time power is applied to the heater

10.Reverse thermocouple indicator - Flashes when the unit detects a reversed thermocouple

*Note: A shorted thermocouple is indicated when the open(8) and reversed(10) LEDS are flashing alternately

11.Over temperature indicator - Flashes when process temperature is above over temperature alarm limit.The over temperature alarm limit is adjustable from +5 to +30 F via parameter # 7.

12.Ramp Start key - Press to enter Ramp Start mode. LED lights to indicate that the unit is in Ramp Start mode. When the controller detects that the heater temperature is below 212° F or 100° C, it automatically initializes Ramp Start mode at cold start up. The unit will enter Automatic mode after Ramp Start expires. This time period is adjustable via parameter #5 (0 to 20 min).

13. Open loop key - Press to enter Manual mode. LED lights when the unit is in Manual mode.

14. Closed loop key - Press to enter Automatic mode. LED lights when unit is in Automatic mode.

15. Up / Down keys - Used to change the following:

- Setpoint (Automatic mode / Ramp Start mode)
- Percentage of power applied to the heater (Manual mode)
- To change the values in the parameters mode.

16. Standby key - Used to place the unit in and out of standby

17. Parameter key - Used to select parameters

18. Amps key - Used to select the current measurement feature

19. 100% power key - Pressing this key will output 100% power in manual mode. In auto mode it will output 100% unit temperature reaches the upper alarm setting.

20. Power switch - Controls power to the module.
MUST BE SET TO OFF BEFORE INSERING OR REMOVING MODULE.

21. Audible alarm - Use parameter #2 to turn on or off

RITC-15A PARAMETER CHART

(Default value in parenthesis)

PO1	TEMPERATURE DISPLAY MODE	°C / (°F)
PO2	AUDIBLE ALARM	(ON) / OFF
PO3	TC BREAK MODE	OFF / (APO) –AVERAGE POWER
PO4	OUTPUT TYPE	(F2y) – FUZZY, Pid – PID TYPE A
PO5	RAMP START TIME	0 – 20 MIN (5) 0 DISABLES
PO6	UNDER TEMP ALARM ADJUST	-5 to (-30) F
PO7	OVER TEMP ALARM ADJUST	+5 to (+30) F
PO8	GROUND FAULT SENSITIVITY	60 – 180Ma (120) 181 DISABLES
PO9	TOH TIME	0 – 255 SECONDS (120)
P10	RAMP START LOCK	(ON) / OFF
P11	KEYPAD LOCKOUT	LOC – locked / (uLC) unlocked

KEYPAD LOCKOUT

Keypad lockout, when set to LOC the unit will not allow changes in setpoint or operating modes. (See parameter #12 in the parameter chart.)

HOW TO CHANGE PARAMETERS

(PROGRAMMING MODE)

To select and change a parameter.

1. Press the parameter key until the upper display shows the parameter that you to change. (PO1 – P11)
2. Use the up and down keys to change the parameter settings. (lower display)
3. Repeat steps 1 & 2 as needed.
4. To store the new settings, continue pressing the parameter key until you are out of the programming mode and 'str' has appeared on the upper display.

ERROR CODES

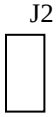
(Flashes on the display when an error is detected)

9fd	Ground Fault. When the unit detects leakage current between the heater output and earth ground in excess of the setting in the P08 parameter, the unit will indicate a ground fault. Entering 181 in P08 will disable this alarm
tSH	Triac Shorted. When the module detects current being applied to the heater when the triac is off, it will indicate a 'tSH' error and the controller will shut off power to the heater.
toH	Open heater, open triac. When the unit detects an under temperature condition for longer than the time selected in the PO9 parameter, the unit will indicate a 'toH' error.

J2 JUMPER SELECTION

Note: The purpose of the J2 jumper is to prevent damage to the connector when the controller is accidentally Inserted into a mainframe with the power switch in the ON position. This feature will not work in old MCS Or non-MCS mainframes. The controller will not supply power to the heater and will display a 'toH' error if the wrong jumper position is selected.

Settings



1&2 non-MCS or old MCS mainframes

2&3 MCS mainframes

J2 is located next to the connection fingers of the controller exposed for the user.

RITC-15A PARAMETER CHART for Units with Standby Option

(Default value in parenthesis)

PO1	TEMPERATURE DISPLAY MODE	°C / (°F)
PO2	AUDIBLE ALARM	(ON) / OFF
PO3	TC BREAK MODE	OFF / (APO) –AVERAGE POWER
PO4	OUTPUT TYPE	(F2y) – FUZZY, Pid – PID TYPE A
PO5	RAMP START TIME	0 – 20 MIN (5) 0 DISABLES
PO6	UNDER TEMP ALARM ADJUST	-5 to (-30) F
PO7	OVER TEMP ALARM ADJUST	+5 to (+30) F
PO8	GROUND FAULT SENSITIVITY	60 – 180Ma (120) 181 DISABLES
PO9	TOH TIME	0 – 255 SECONDS (120)
P10	STANDBY % POWER	0% to 30% (15%)
P11	RAMP START LOCK	(ON) / OFF
P12	KEYPAD LOCKOUT	LOC – locked / (uLC) unlocked

KEYPAD LOCKOUT

Keypad lockout, when set to LOC the unit will not allow changes in setpoint or operating modes. (See parameter #12 in the parameter chart.)

HOW TO CHANGE PARAMETERS

(PROGRAMMING MODE)

To select and change a parameter.

1. Press the parameter key until the upper display shows the parameter that you to change. (PO1 – P11)
2. Use the up and down keys to change the parameter settings. (lower display)
3. Repeat steps 1 & 2 as needed.
4. To store the new settings, continue pressing the parameter key until you are out of the programming mode and 'str' has appeared on the upper display.

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(Flashes on the display when an error is detected)

9fd	Ground Fault. When the unit detects leakage current between the heater output and earth ground in excess of the setting in the P08 parameter, the unit will indicate a ground fault. Entering 181 in P08 will disable this alarm
tSH	Triac Shorted. When the module detects current being applied to the heater when the triac is off, it will indicate a 'tSH' error and the controller will shut off power to the heater.
toH	Open heater, open triac. When the unit detects an under temperature condition for longer than the time selected in the PO9 parameter, the unit will indicate a 'toH' error.

J2 JUMPER SELECTION

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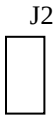

1&2 non-MCS or old MCS mainframes

2&3 MCS mainframes

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