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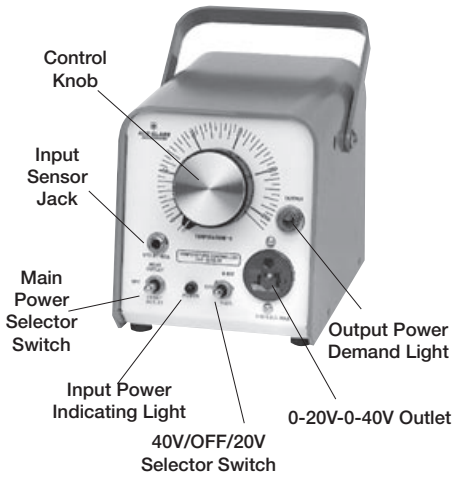
Find the *Ace Glass 12103-05* at our website: ***Click HERE***

Operating Instructions For
12103-05 TEMPERATURE CONTROLLER
[RTD INPUT SENSOR]

Before beginning, take some time to familiarize yourself with the features of your new ACE Temperature Controller.

FRONT PANEL:

Locate large CONTROL KNOB in upper center of panel. In lower left corner is MAIN POWER SELECTOR, ON(A.C. Power)/ OFF SWITCH. Above power switch is the DETECTOR CONNECTION for connecting RTD Sensor. To the immediate right of the power switch is a red INPUT POWER INDICATING LIGHT indicating line power to controller. In lower right corner see the front 0-20V or 0-40v OUTLET for connecting heater. To the left of outlet is output voltage selector switch. Above outlet is the OUTPUT POWER DEMAND LIGHT that indicates power output to heater.



REAR PANEL:

Lower left, locate two fuse holders: both are fast acting 15 amp fuses for input, top, and output, bottom, circuits. Note! Output can be changed to 10 amp for lower current heaters. Bottom center is a 120v output outlet, 15 amps maximum loads such as oil baths, mantles, etc. To the right bottom is the power cord for 120 volts, 15 amps, maximum power input.

OPERATION

FOR 0-20 OR 0-40 VOLTAGE LIMITS

1. Turn MAIN POWER SELECTOR SWITCH to "Off" position.
2. Turn the CONTROL KNOB to position "0"
3. Connect FRONT OUTLET to heater, i.e., oil bath, mantle, etc.
4. Select desired voltage limit and switch front toggle, located to left of front outlet, to proper position. Watch heater voltage rating!
5. Connect sensor to DETECTOR CONNECTION and immerse probe into liquid to be heated. A convenient method of holding sensor in oil baths is via 9601-30 Holder Clip. (IMPORTANT! To avoid damage, never disconnect sensor while MAIN POWER SELECTOR SWITCH is energized).
6. Plug POWER CORD into 120v line source.
7. Switch MAIN POWER SELECTOR SWITCH to "FRONT OUTLET". INPUT POWER INDICATING LIGHT should light. (Note! If switch is accidentally turned to "Rear Outlet", front outlet will not be activated).
8. Turn CONTROL KNOB to desired temperature. OUTPUT POWER DEMAND LIGHT will indicate heating, blinks within proportional band, and goes out when set temperature is exceeded.

FOR 0-120 VOLTAGE LIMITS

1. Turn MAIN POWER SELECTOR SWITCH to "Off" position.
2. Turn the CONTROL KNOB to position "0"
3. Connect REAR OUTLET to heater, i.e., oil bath, mantle, etc. 120v type heaters, only.
4. Connect sensor to DETECTOR CONNECTION and immerse probe into liquid to be heated. A convenient method of holding sensor in oil baths is via 9601-30 Holder Clip. (IMPORTANT! To avoid damage, never disconnect sensor while MAIN POWER SELECTOR SWITCH is energized).
5. Plug POWER CORD into 120v line source.
6. Switch MAIN POWER SELECTOR SWITCH to "REAR OUTLET". INPUT POWER INDICATING LIGHT should light. (Note! If switch is accidentally turned to "Front Outlet", rear outlet will not be activated).
7. Turn CONTROL KNOB to desired temperature. OUTPUT POWER DEMAND LIGHT will indicate heating.

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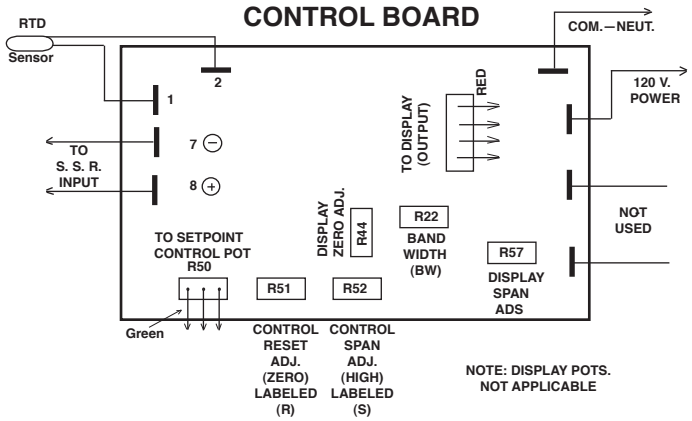
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CALIBRATION INSTRUCTIONS FOR
TEMPERATURE CONTROLLERS
12103-05

[FACTORY SET—ADJUST ONLY WHEN NECESSARY]

1. Remove (4) four Philips head screws on sides of controller case and lift off.

2. FIGURE:



3. Plug in Controller power cord and RTD probe. Flip front switch to "FRNT-OUTL" and other front switch to "0-20v". No Heater loads are necessary. Power ON for 120 v. Model. Allow 1/2 hour for warm-up.

4. **PROPORTIONAL BAND ADJUSTMENT**: Place RTD probe at room temperature. Adjust P.B. Pot so that a temperature dial change of 20°C (factory set) causes the demand light to go from "OFF" to "FULL ON". Labeled **BW**

R22 BW

5. **ZERO ADJUST**: Place RTD probe in ice water or (100 ohms equivalent) and set temperature dial at 10°C or (1/2 of selected Proportional Band plus 0°C): Adjust Reset Pot. for demand light to just reach "FULL-ON". Labeled **R**

R51 RESET

***6. **SPAN ADJUSTMENT**: Place RTD probe in boiling water or (139.2 ohms equivalent) and set temperature dial to 110°C or (1/2 of selected Proportional Band plus 100°C). Adjust Span Pot. for demand light to just reach "FULL-ON". Labeled **S**

R52 SPAN

7. Repeat three adjustments again. Allow time for RTD probe to stabilize temperature before making adjustments.

8. Replace cover.

***Use this adj

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