

8.2 Routine Maintenance



Calibrate the instrument routinely to ensure conformity to specifications. Calibration is to be performed by qualified service personnel only.

Clean the front panel with a damp cloth. If needed, use a detergent containing no abrasives. Always clean the front panel with the bezel closed. **Do not use solvent cleaners.**

8.3 Set Mode

Select this to change the operating mode to Online or Program.

ATTENTION

Changing to ONLINE mode by pressing any of the Display buttons can cause incorrect values to be displayed. The values will correct themselves in a few seconds. To avoid this potential annoyance, change to online mode through SET MODE instead of through the Display buttons.

8.4 Calibrate Analog Inputs

Select an AI for calibration. Only one Analog Input is needed for calibration, regardless of the number of inputs present. *It is recommended that one of the middle inputs (#3 or #4) be used.*



WARNING

Disconnect power to all terminals before connecting or disconnecting calibration leads. Hazardous voltage is present on the mains terminals and may be present on other terminals. More than one switch may be required to de-energize the unit before servicing.

ATTENTION

Time-stamp and description of successful calibrations are stored to disk in the Event File.

Calibrating EMF Inputs

Table 8-2 Calibrate EMF Input Procedure

Step	Action
1	Connect an adjustable precision 25 mV - 5 V voltage source to the terminals of the selected TC or EMF input.
2	Adjust the source to 25 mV. Select the calibration voltage 25 mV and press Enter to calibrate the selected range. A message CALIBRATING will appear until calibration is complete. If it fails, a failure message is displayed.
3	Repeat for 75 mV, 1.0V and 5.0V
4	Press Menu to restore the Main Maintenance Menu when finished.

Calibrating RTD Inputs

Table 8-3 Calibrate RTD Input Procedure

Step	Action
1	Perform the appropriate EMF calibration as described above.
2	Using the same input, connect a precision variable resistor to the RTD input (Figure 8-1). The A and B leads must be of equal resistance (length).
3	For standard inputs, set the resistor to 100 ohms. Select RTD CALIBRATE 100 OHMS and press Enter. The message CALIBRATING will appear until the RTD low range calibration is complete. Repeat this step using 500 ohm resistor and RTD CALIBRATE 500 OHMS .
4	For 10 ohm copper inputs, set the resistor to 10 ohms. Select RTD CALIBRATE 10 OHMS and press Enter. The message CALIBRATING will appear until the RTD low range calibration is complete. Repeat this step using 25 ohm resistor and RTD CALIBRATE 25 OHMS .
5	Press Menu when AI calibration is complete to return to the main Maintenance menu.

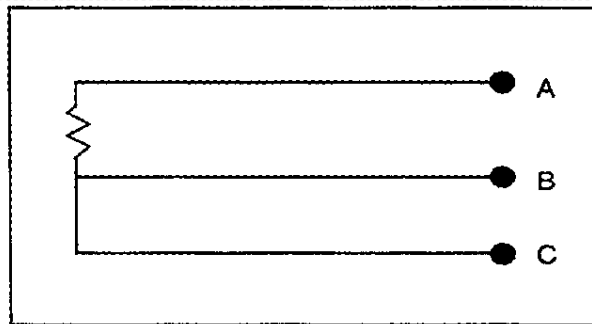


Figure 8-1 RTD Calibration Connection

8.5 Calibrate Analog Outputs

For VAT calibration, a precision voltmeter is required. For CAT calibration, a precision milliammeter or a precision resistor and voltmeter is required.



WARNING

Disconnect power to all terminals before connecting or disconnecting calibration leads. Hazardous voltage is present on the mains terminals and may be present on other terminals. More than one switch may be required to de-energize the unit before servicing.

ATTENTION

Time-stamp and description of successful calibrations are stored to disk in the Event File.

ATTENTION

If you are calibrating an analog output that was changed from a CAT to a VAT or vice versa, make sure you put the instrument online for several seconds before calibrating.

Table 8-4 Calibrate Analog Output Procedure

Step	Action
1	Connect the meter to the output #1 terminals.
2	Select CALIBRATE ANALOG OUTPUTS.
3	Select OUTPUT #1 LOW. The menu will disappear and the meter will read approximately 4 mA (CAT) or 1 volt (VAT).
4	Use the Increment and Decrement buttons to adjust the meter reading to the exact low value of 1 volt or 4 mA. Press Enter when done.
5	Select OUTPUT #1 HIGH. The menu will disappear and the meter will read approximately 20 mA (CAT) or 5 Volts (VAT).
6	Use the Increment or Decrement buttons to adjust the meter reading to the exact high value. Press Enter when done.
7	Repeat steps 1-6 to calibrate other CAT or VAT outputs.
8	Press Menu to restore the main Maintenance menu.