

Calibration Procedure		Calibrating the CO2 TC Sensor for the 3110
3110		May 15, 2014

Calibrating Thermal Conductivity CO2 System

Models 3110, 3111, 3130 and 3131 have a thermal conductivity (T/C) CO2 sensor. Thermal conductivity of the incubator atmosphere is not only effected by the quantity of CO2 present, but also by the air temperature and the water vapor present in the incubator atmosphere. In monitoring the effects of CO2, air temperature and absolute humidity must be held constant so any change in thermal conductivity is caused only by a change in CO2 concentration.

Changing temperature or changing from elevated humidity levels to room ambient humidity levels would necessitate a recalibration of the CO2 control.

T/C CO2 Sensor Stabilization Periods

Start-up - The CO2 sensor has been calibrated at the factory for 37°. Allow temperature, humidity, and CO2 levels in the chamber to stabilize at least 12 hours before checking the CO2 concentration with an independent instrument.

Presently operating - Make sure the chamber doors are closed. Allow at least 2 hours after the temperature and CO2 displays reach their setpoints for chamber atmosphere stabilization.

1. Make sure stabilization periods outlined above are followed.
2. Sample the chamber atmosphere through the sample port with an independent instrument. Sample the atmosphere at least 3 times to ensure the accuracy of the instrument.
2. Press the Mode key until the CAL indicator lights.
3. Press the right arrow until CO2 CAL XX.X is displayed in the message center.
4. Press the up/down arrow to change the display to match the independent instrument.
5. Press Enter to store calibration.
6. Press the Mode key to return to Run Mode, or the right or left arrow keys to go to the next/previous parameter.