



P4901 Digital Thermometer Technical and Usage Information

Application:

The P4901 Digital Thermometer is provided as an option to customers wishing to validate the temperature displayed by the temperature controller of the P4900 Micro-Incubator. The P4901 option utilizes a dual temperature sensor built into the Micro-Incubator. The primary sensor (platinum RTD) monitors the aluminum block temperature and displays the value on the front panel controller of the incubator. The secondary sensor is the T-type thermocouple that is co-resident with the primary sensor. The thermocouple junction terminates in the back panel jack that can be connected to the external thermometer. If the thermometer is properly calibrated, then the veracity of the controller operation can be checked and adjusted if needed.

Installation Instructions:

The optional P4901 digital thermometer is equipped with a connector cable terminated on both ends with the male T-type thermocouple plugs. The one end of the cable is plugged into the back panel jack of the Micro Incubator and the other into the Digital Thermometer. After the Micro Incubator has been turned on and well stabilized at the final temperature, the thermometer is connected via the connecting cable and turned on as well. The controller temperature on the front panel of the incubator can now be compared with the same location temperature sensed and displayed by the calibrated digital thermometer. As per instructions outlined in the manual of the incubator, if these two values differ by 1.0 °C or more, then the controller needs to be adjusted into agreement with the digital thermometer. This is accomplished by re-setting the temperature displayed on the controller via its push button re-programming features. The user is advised to consult the P4900 Micro Incubator manual for details of this operation.

Calibration:

Individual company standard operating procedures will dictate the frequency of use and calibration of the components. Typical industry practices are:

- ❑ **Incubator** –Use GEX P8003 irreversible thermal labels or equivalent on the B3 dosimeter packages. Alternatively, use the Micro Incubator housing back panel connection to attach a calibrated temperature probe (e.g. P4901).
- ❑ **Digital Thermometer** – Calibrated annually, or at replacement.

Warranty:

The digital thermometer option P4901 is supplied with a one year manufacturer's warranty. User modifications are not warranted and are the sole responsibility of the user. See the manufacturer warranty information for more details.

Thermometer Specifications:

Sensor	Single probe, T-type thermocouple
Display	10 mm high LCD in °C or °F
Temperature Range	-90°C to +400°C -130°F to 752°F
Temperature Resolution	0.1 °C (0.2°F)
Accuracy	±0.05% of reading
Weight	0.23 kg
Footprint	15 cm x 7 cm x 3 cm
Features	MAX / MIN and RESET
Power Source	9 Volt DC battery optional AC adapter

Certificate of Calibration:

Manufacturer issued Certificate of NIST Traceability and Recalibration.

Typical Set-Up:



Digital Thermometer connected to Micro Incubator.
Temperature agreement is 0.1°C