



P4901 数字温度计

技术和使用信息

应用:

P4901数字温度计是一个可选配置，它可以提供给希望用来确认P4900微型恒温箱温度控制器显示的温度的用户。**P4901可选项使用一个双温度传感器并安装在微型恒温箱内部?**。主传感器（白金 RTD）监视铝块的温度并在恒温箱前面板上显示数值。另一个传感器是T型热电偶，它和主传感器并在一起。热电偶连接至后面板插口上，插口可以与外部温度计相连。如果温度计经恰当的校准，那么控制器运行的真实性就可以得到检查和按需调节。

安装说明:

可选项P4901数字温度计配有一个两头都是公T型热电偶插头的连接电缆。电缆的一头插入微型恒温箱背部面板的插口，另一头则插入数字温度计。在微型恒温箱开机并温度稳定后，连接温度计和电缆并开机。比较恒温箱前面板上的控制器温度与由经校验的数字温度计检测并显示的相同位置的温度。按照恒温箱手册里的说明，如果这两个数值差大于等于1.0 °C，则控制器需要调节以使其与数字温度计保持一致。通过它面板上的编程按钮，重新设置控制器显示的温度就可以实现。关于该操作的详细介绍，建议用户查看P4900微型恒温箱手册。

校准:

各个公司的标准操作程序都会规定各设备的使用和校准频率，典型的行业惯例如下：

- **恒温箱** – 使用GEX P8003不可逆温度标签或等同物贴在B3剂量计包装上；另一个可选的方法是，使用恒温箱背部面板上的插口连接一个经校准的温度探头 (e.g. P4901)。
- **数字温度计** – 每年校准，或更换时校验

保修:

数字温度计可选项P4901提供一年厂家质保。用户更改将使保修失效并由用户自行承担。更多详细信息请参考制造商质保信息。

温度计规格参数:

| | |
|-------|--|
| 传感器 | 单探头，T型热电偶 |
| 显示 | 高10mm LCD °C/°F |
| 温度范围 | -90 °C to +400 °C -130 °F to 752 °F |
| 温度分辨率 | 0.1 °C (0.2 °F) |
| 精度 | 读数的±0.05% |

| | |
|------|---------------------|
| 重量 | 0.23 kg |
| 占用空间 | 15 cm x 7 cm x 3 cm |
| 特点 | MAX / MIN, RESET |
| 电源 | 9 VDC 电池 交流适配器可选 |

校准证书:

制造商提供NIST可追溯及再校准证书。

典型的安装:



数字温度计连接到微型恒温箱，温度差为0.1 °C



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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