

# PM24 Field Calibration Procedure

All input types are factory calibrated. This field calibration should only be accessed by experienced personnel. Before attempting to calibrate, make sure you read through the procedures carefully and have the proper equipment required for each procedure.

The complete calibration is divided into five sections:

1. Linear 0-50 millivolts input (type 18)
2. Thermocouples sensor input (type 0 to 6)
3. RTD-Pt100 sensor input (type 7 and 8)
4. Linear 4-20mA input (type 10 to 17 and 19)
5. Linear 0-10 Volts input (type 20)





Each section is calibrated individually; the calibration of one section does not interfere with the calibration of another section. The function protection (**Prot**) needs to be disabled (**Prot = 0**) (see PM24 Operator's Manual).

## 1. Linear 0-50mV input calibration

### **Equipment required:**

- Precision millivolt source 0-50mV min. range, 0.001mV resolution.
- Regular 20 or 22 gauge copper wire.

### **Setup and Calibration:**









1. Connect the AC line voltage to the terminals 7 and 8.
2. Connect the millivolt source to the terminal 2 positive and terminal 3 negative on the PM24.
3. Apply power to the PM24.
4. Select the following parameters in Cycle 3:  
**TYPE = 18**  
**dPPo = 0**  
**InLL = - 1999**  
**InHL = 9999**  
**Prot = 0**
5. Turn on the millivolt source and allow it to stabilize.
6. In cycle 4 select parameter **InLC**, enter 1.000mV from the millivolt source. Push the  or  key repeatedly on the PM24 until **- 1760** ( $\pm 2$  digits) is displayed in this parameter.
7. Push the **SET UP** key, select parameter **InHC**, enter 49.000mV from the millivolt source. Push the  or  key repeatedly on the PM24 until **9760** ( $\pm 2$  digits) is displayed in this parameter.
8. Repeat the steps 6 and 7 one or two times to make sure the correct calibration is performed.
9. If the calibration is already finished, and you are not going to another calibration section, the function protection (**Prot**) needs to be enabled (see PM24 Operator's Manual).

**2. Thermocouples sensor input calibration**

**Equipment required:**

- Precision millivolt source 0-55mV min. range, 0.001mV resolution.
- Precision glass bulb thermometer, 10-50 °C
- Regular 20 or 22 gauge copper wire.

**Setup and Calibration:**

1. Connect the AC line voltage to the terminals 7 and 8.
2. Connect the millivolt source to the terminal 2 positive and terminal 3 negative on the PM24.
3. Apply power to the PM24.
4. Select the following parameters in Cycle 3:  
**TYPE = 1**  
**Unit = 0**  
**InLL = -150**  
**InHL = 1370**  
**Prot = 0**
5. Turn on the millivolt source and allow it to stabilize. Enter 0.000mV from the millivolt source.
6. In cycle 4, select the parameter **CLL = 0** using the  or  key repeatedly on the PM24 until **0** is displayed in this parameter.
7. Select parameter **InLL**, enter 0.000mV from the millivolt source. Push the  or  key repeatedly on the PM24 until **0** is displayed in this parameter.
8. Push the **SET UP** key, select parameter **InHL**, enter 53.520mV from the millivolt source. Push the  or  key repeatedly on the PM24 until **1332** is displayed in this parameter.
9. Repeat the steps 7 and 8 one or two times to make sure the correct calibration is performed.
10. Select the parameter **CLL**. Read the temperature between the terminals 2 and 3 on PM24 using the precision glass bulb thermometer (°C). Write this temperature (ex: 25) using the  or  key repeatedly on **CLL** parameter. This final step activates the automatic “cold junction”.
11. If the calibration is already finished, and you are not going to another calibration section, the function protection (**Prot**) needs to be enabled (see PM24 Operator’s Manual).

**NOTES:**

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**5. Linear 0-10 Volts input calibration**

**Equipment required:**

- Precision Volt source 0-10 Volts min. range, 0.001 Volts resolution.
- Regular 20 or 22 gauge copper wire.

**Setup and Calibration:**

1. Connect the AC line voltage to the terminals 7 and 8.
2. Connect the Volts source to the terminal 3 negative and terminal 5 positive on the PM24.
3. Apply power to the PM24.
4. Select the following parameters in Cycle 3:
  - TYPE = 20**
  - dPPo = 0**
  - InLL = - 1999**
  - InHL = 9999**
  - Prot = 0**
5. Turn on the Volts source and allow it to stabilize.
6. In cycle 4 select parameter **InLE**, enter 0.500V from the volts source. Push the  or  key repeatedly on the PM24 until **- 1400** ( $\pm 2$  digits) is displayed in this parameter.
7. Push the **SET UP** key, select parameter **InHE**, enter 9.500V from the volts source. Push the  or  key repeatedly on the PM24 until **9400** ( $\pm 2$  digits) is displayed in this parameter.
8. Repeat the steps 6 and 7 one or two times to make sure the correct calibration is performed.
9. If the calibration is already finished, and you are not going to another calibration section, the function protection (**Prot**) needs to be enabled (see PM24 Operator’s Manual).

**NOTES:**

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