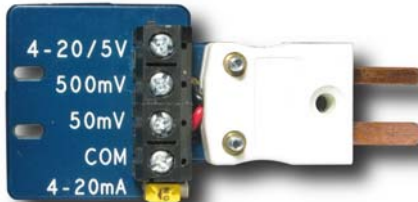


USB TC-08 Single-Channel Terminal Board

User's Guide



1 Safety notices



You **MUST** observe the following safety notices to prevent damage to equipment and personal injury.

DO NOT do not connect the terminal board to any voltage source exceeding the maximum input range printed on the board.

DO NOT connect the terminal board to a mains (line voltage) electrical supply. The high voltage will damage or destroy the equipment and may cause serious or fatal injury.

2 Overview

2.1 Introduction

The USB TC-08 Single-Channel Terminal Board is an accessory for the Pico Technology USB TC-08 8-Channel Thermocouple Data Logger. The screw terminals allow wires to be attached to the data logger without soldering and enable the USB TC-08 to measure voltages from 0 to + 5 V or 4-20 mA loop currents.

The terminal board is designed for use with the USB TC-08 and is not guaranteed to work with other thermocouple data loggers.

2.2 Specifications

| | |
|---------------------------|--|
| Dimensions | 57 x 27 x 14 mm (approx. 2.3 x 1.1 x 0.6 in.) |
| Weight | 12 g nominal (approx. 0.5 oz) |
| Terminal wire size | 1.5 mm ² solid, 1.0 mm ² stranded, 16-26 AWG |

2.3 Inputs and switch

| Name | Function |
|-------------|---|
| 4-20/5V | Input for the positive side of a 4-20 mA loop or 0 to 5 V signal |
| 500mV | Input for the positive side of a 0 to 500 mV signal |
| 50mV | Input for the positive side of a 0 to 50 mV signal |
| COM | Input for the negative side of any voltage or current signal. |
| 4-20 mA | Set switch to "ON" for a 4-20 mA loop signal. Set switch to "OFF" for all voltage signals. |

3 Measuring voltages and currents

- 1) Connect the negative side of your circuit to the COM terminal.
- 2) Connect the positive side of your circuit to the "5 V", "500 mV" or "50 mV" terminal depending on the voltage range of the signal. For a 4-20 mA loop signal, use the "5 V" input.
- 3) For a 4-20 mA loop signal, set the switch to "ON". For a voltage signal, set the switch to "OFF".
- 4) Plug the terminal board into the USB TC-08.
- 5) Connect the USB TC-08 to the computer using the USB cable supplied with the logger.
- 6) Run PicoLog on the computer.
- 7) Go to File -> New Settings.
- 8) Set the converter type to USB TC-08.
- 9) Edit one of the USB TC-08 channels and set the "Thermocouple" control to "mV".
- 10) PicoLog will display the voltage or current applied to the terminal board in the monitor window.

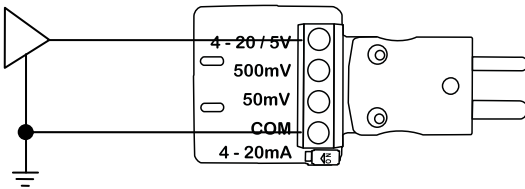


Figure 1: Example connection for measuring a 0 to 5 volt signal



Figure 2: The terminal board fitted to the USB TC-08

The voltage displayed in PicoLog corresponds to the input voltage as follows:

| Input range | PicoLog voltage |
|-------------|-----------------|
| 0 – 5 V | 0 – 50 mV |
| 0 – 500 mV | 0 – 50 mV |
| 0 – 50 mV | 0 – 50 mV |
| 4 – 20 mA | 9.6 – 48 mV |



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