USER MANUAL

TMP74

Professional 4-Channel Thermocouple and IR Thermometer with Datalogging

Introduction

Welcome, and congratulations on your purchase of the Triplett TMP74 Professional 4-Channel Thermocouple and IR Thermometer with Datalogging. The TMP74 is a high-performance instrument designed for accurate and responsive temperature measurement using K-type thermocouples and an infrared (IR) sensor. Ideal for industrial, laboratory, and field environments, the TMP74 offers advanced features including data logging, temperature differentials, USB interface, and user-adjustable calibration.

What's in the box:

- TMP74 Thermometer
- (4) K-Type Thermocouples
- IR Temperature Probe
- USB Cable
- (1) 9V Battery
- Protective Case
- PC Software

Stay updated:

For the most recent version of the user manual, always visit the official Triplett website: **www.triplett.com** and search for **TMP74**.
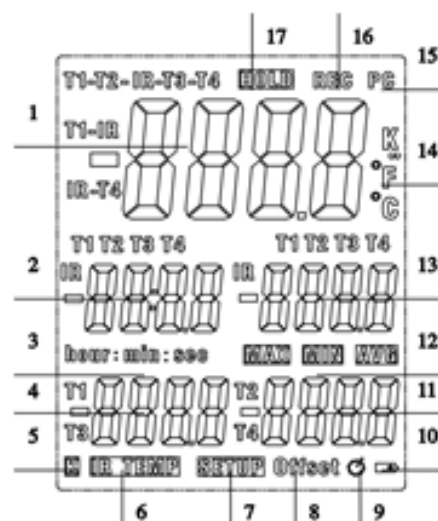
Description

Meter Description

1. Large Backlit LCD Display
2. Thermocouple Inputs: T1, T2, T3, T4
3. IR Input Port
4. USB Interface
5. Control Buttons

LCD Display

1. **Primary Display**: Shows the selected measurement (T1, T2, T3, T4, IR, T1–T2, T1–IR, T2–IR, T3–T4, IR–T3, or IR–T4).
2. **Secondary Display**: Displays real-time data from T1, T2, T3, or T4.
3. **Tertiary Display**: Indicates IR temperature or recording duration.
4. **Fourth Display**: Displays T1 or T3 reading.
5. **Fifth Display**: Displays T2 or T4 reading.
6. **Timer Display**: Shows elapsed time in minutes: seconds or hours: minutes.
7. **Thermocouple Type Indicator**: Identifies input type for each channel.
8. **IR Measurement Indicator**: Displays temperature from the IR sensor.
9. **Setup Mode**: Icon appears when entering or exiting setup mode.
10. **Offset Settings**: Displays offset adjustments for T1–T4 and IR inputs.
11. **Auto Power Off Indicator**: Shows if sleep mode is active.
12. **Low Battery Indicator**: Signals when battery replacement is needed.
13. **MAX, MIN, AVG**: Indicates maximum, minimum, and average readings.
14. **Measurement Units**: Displays °C, °F, or K depending on selection.
15. **PC Connection Icon**: Indicates USB communication is active.
16. **Data Logging Icon**: Shows when data is being recorded.
17. **Hold Indicator**: Appears when the display is frozen.

Operation

Getting Started

Operation

Power On / Off

Press the Power button to turn the device ON or OFF. If the device is logging data, the session will stop and automatically save upon shutdown.

Connecting Probes

Plug thermocouples into T1–T4 inputs. For IR measurement, connect the IR probe into the dedicated port. The screen will show "----" if no probe is detected.

Temperature Measurement

- Insert probes, then press Power.

- The LCD will show T1–T4 and IR temperatures as applicable.

- Allow time to stabilize after inserting probes or moving between environments.

Button Functions

- **MODE**: Toggles between MAX, MIN, AVG, and DIF (T1–T2, etc.). Requires two inputs for DIF.
- **UNITS**: Switches between °C, °F, and K.
- **HOLD**: Freezes the displayed value.
- **DIF**: Activates differential view (T1–T2, T1–IR, etc.).
- **BACKLIGHT/SETUP**: Tap for backlight; hold 5 seconds to enter Setup mode.
- **UP/DOWN**: Scroll through or adjust values in Setup mode.
- **REC**: Starts or stops data logging.

Setup Mode

To enter Setup, hold the Backlight button for 5 seconds. Navigate using UP/DOWN.

Offset Calibration

Apply a user-defined offset to compensate for sensor error. This can be set independently for T1–T4 and IR.

Sample Rate

Adjust data logging rate from 1 second to 60 minutes (default: 1 second).

Time Setting

Set year, month, day, hour, and minute.

Clear Memory

Navigate to "CLR" > Select "SURE YES" > Press to confirm.

Sleep Mode (Auto Power Off)

Enable or disable auto shutoff after 20 minutes of inactivity.

Data Logging

- Press **REC** to begin logging data. Press again to stop.
- If memory is full, "FULL" will appear. Clear memory to continue.

MIN, MAX, AVG

Press the MODE button to cycle through MAX, MIN, and AVG readings.

- Hold MODE for 3 seconds to exit this mode.

Differential Temperature

Press DIF to view differences between T1-T2, T1-IR, etc. Requires both channels to be active.

Display Hold

Press HOLD to freeze the current temperature readings. Press again to release.

Alarms

- When the measured temperature exceeds the high/low thresholds, an icon and buzzer alert.

- To silence the buzzer: Hold HOLD + press UP. Display will show "bELL ON/OFF".

- Repeat to toggle alarm sound back on.

Viewing Remaining Memory

Press BACKLIGHT, then MODE for 1 second. Remaining memory count will be displayed.

Battery Replacement

1. Turn off the device.
2. Open the battery compartment.
3. Replace with one 9V battery (NEDA 1604 / 6F22).
4. Close compartment securely.

Specifications

Feature	Description
Thermocouple Type	K-Type
Temperature Range	-328°F to 2501°F (-200°C to 1372°C)
IR Range	-22°F to 1022°F (-30°C to 550°C)
Accuracy (T > -100°C)	±0.15% reading + 1°C (1.8°F)
Accuracy (T < -100°C)	±0.5% reading + 2°C (3.6°F)
Accuracy (IR > -10°C)	±2.0% reading + 2°C (3.6°F)
Accuracy (IR < -10°C)	±5°C (9.0°F)
Differential Temp	Yes (T1–T2, T1–IR, etc.)
Datalogging Memory	18,000 records per channel
Sampling Rate	Adjustable (1s to 60min)

Auto Power Off	After 20 min inactivity
Power Supply	1 × 9V Battery
Dimensions	7.3 x 2.6 x 1.8 in (185 x 65 x 45 mm)
Weight	8.7 oz (248 g)

Warranty Statement

Triplett Test Equipment offers a two-year warranty to the original purchaser of its products. We guarantee that our products will be free from defects in workmanship and materials for two (2) years from the purchase date.

This warranty does not cover:

- Products purchased from unauthorized distributors.
- Items that have been repaired or altered by unauthorized individuals.
- Damage from misuse, abuse, misapplication, negligence, or accidents.
- Products with altered, defaced, or removed serial numbers.
- Accessories, including batteries.

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