Gain Express THE-343

Gain Express THE-343 Dual Channel K/J Type Thermocouple Thermometer User Manual

Model: THE-343 | Brand: Gain Express

1. Introduction

This manual provides comprehensive instructions for the safe and effective operation of your Gain Express THE-343 Dual Channel K/J Type Thermocouple Thermometer. This device is designed for precise temperature measurement across a wide range, suitable for various industrial, HVAC, laboratory, and general-purpose applications. Please read this manual thoroughly before use and retain it for future reference.

2. Safety Information

- Always handle the thermometer and probes with care.
- Do not expose the main unit to extreme temperatures, moisture, or direct sunlight.
- Ensure probes are correctly connected before taking measurements.
- Avoid bending or damaging the thermocouple wires.
- Do not use the device if it appears damaged.
- Keep out of reach of children.
- Dispose of batteries according to local regulations.

3. Package Contents

Verify that all items are present in your package:

- 1 x Gain Express THE-343 Thermocouple Thermometer
- 2 x Wired K-Type Thermocouple Probes
- 2 x Stainless Steel K-Type Thermocouple Probes
- 1 x Carrying Pouch
- 1 x English Instruction Manual
- 3 x AAA Batteries (pre-installed or included separately)

Figure 3.1: Complete package contents of the THE-343 Thermocouple Thermometer.

4. Product Overview

The THE-343 features a dual-channel display, allowing simultaneous measurement from two K or J type thermocouples. It includes various functions such as data hold, maximum/minimum/average readings, and high/low temperature alarms.

Figure 4.1: Front panel and button layout of the THE-343 Thermometer.

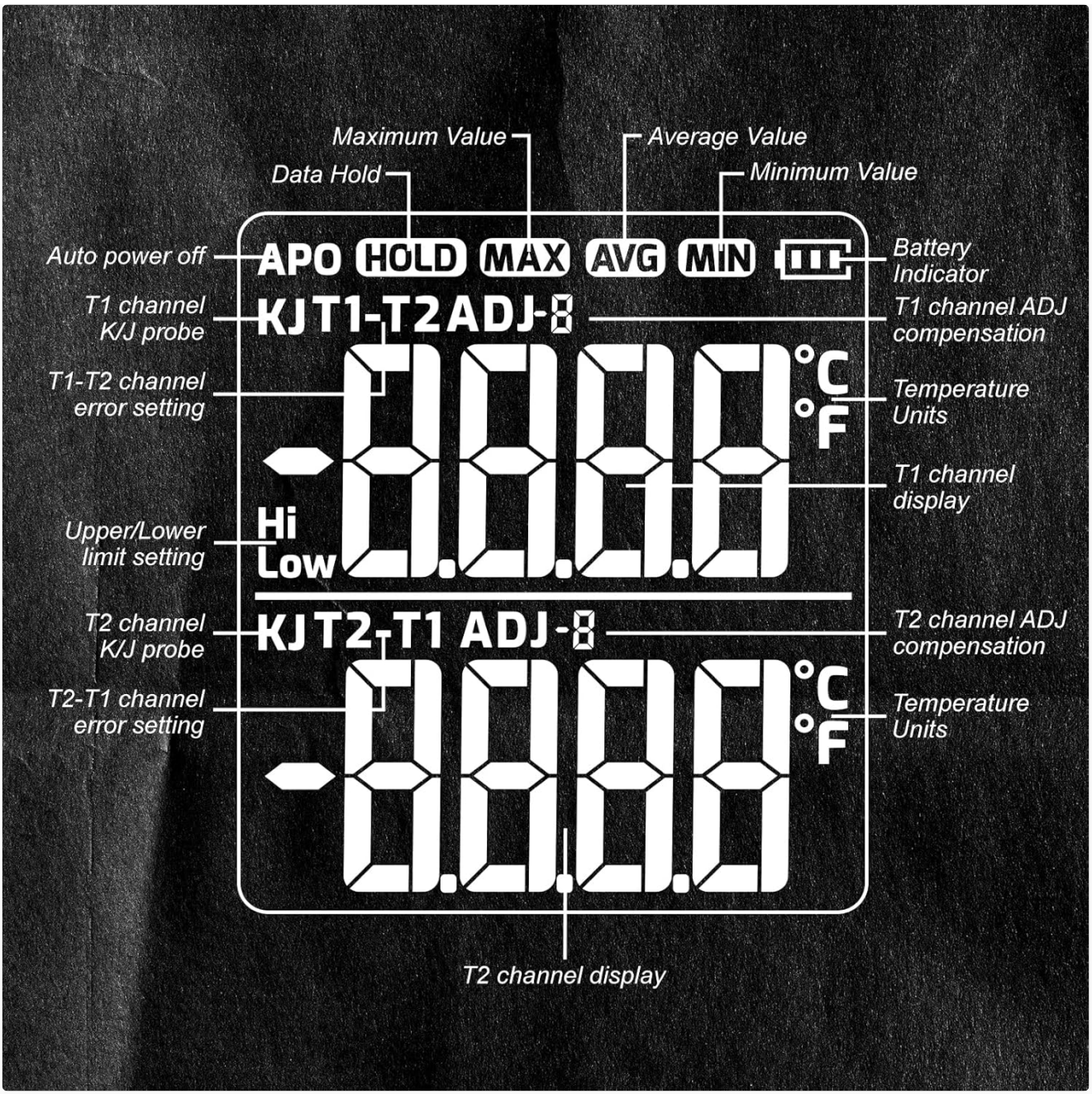


Figure 4.2: LCD Display breakdown and indicators.

Figure 4.3: T1 and T2 Thermocouple Input Ports.

5. Setup

5.1 Battery Installation

1. Open the battery compartment cover located on the back of the device.
2. Insert three (3) AAA batteries, ensuring correct polarity (+/-).
3. Close the battery compartment cover securely.

Figure 5.1: Battery compartment with AAA batteries.

5.2 Connecting Thermocouple Probes

1. Identify the T1 and T2 input ports at the top of the thermometer.
2. Insert the K-type or J-type thermocouple probes into the desired T1 and/or T2 ports. Ensure the connectors are fully seated.
3. The device supports both single and dual-channel measurements.

Figure 5.2: Thermometer with probes connected, measuring liquid temperatures.

6. Operating Instructions

6.1 Power On/Off

- Press the **Power button** (⏻) to turn the thermometer on.
- Press and hold the **Power button** for approximately 2 seconds to turn the thermometer off.
- The device features an Auto Power Off (APO) function, which will turn off the unit after 10 minutes of inactivity to conserve battery life. This can be manually canceled (refer to advanced settings in the included manual).

6.2 Switching Temperature Units (°C/°F)

- With the device powered on, press the **HOLD/UNIT** button to toggle between Celsius (°C) and Fahrenheit (°F).

6.3 Data Hold Function

- Press the **HOLD/UNIT** button briefly during measurement to freeze the current readings on the display. The

"HOLD" indicator will appear.

- Press the button again to release the hold and resume live measurement.

6.4 MAX/MIN/AVG Measurement

- Press the **MAX/MIN** button to cycle through Maximum (MAX), Minimum (MIN), and Average (AVG) temperature readings for both T1 and T2 channels.
- Each press will display the next mode. The corresponding indicator (MAX, MIN, AVG) will appear on the LCD.
- To exit this mode and return to live readings, press and hold the**MAX/MIN** button for approximately 2 seconds.

6.5 Backlight Function

- Press and hold the **MAX/MIN** button for approximately 2 seconds to activate or deactivate the display backlight.

6.6 High/Low Temperature Alarm Setting

- Press the **HI** button to set the upper temperature limit for the alarm. Use the**ADJ** and **Low** buttons to adjust the value.
- Press the **Low** button to set the lower temperature limit for the alarm. Use the**ADJ** and **HI** buttons to adjust the value.
- When the measured temperature exceeds the set high limit or falls below the set low limit, the alarm will activate, and the backlight may change color (refer to Figure 6.1).

Figure 6.1: Backlight behavior during normal operation and high temperature alarm.

6.7 ADJ Compensation (Calibration)

The ADJ function allows for fine-tuning the temperature readings to compensate for minor discrepancies or specific probe characteristics. This is useful for achieving higher accuracy in critical applications.

- To enter ADJ compensation mode, refer to the detailed steps in the included physical instruction manual.
- Use the **ADJ** button to adjust the compensation value for T1 or T2.
- The compensation range is typically -9°C to 9°C (-15.3°F to 15.3°F).

7. Maintenance

7.1 Cleaning

- Wipe the main unit with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- Ensure the device is dry before storage.
- Probes can be cleaned with appropriate sanitizers depending on their application (e.g., food-grade sanitizers for food use).

7.2 Storage

- Store the thermometer and probes in the provided carrying pouch when not in use.
- Keep in a cool, dry place away from direct sunlight and extreme temperatures.
- Remove batteries if the device will not be used for an extended period to prevent leakage.

8. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	Dead or incorrectly installed batteries.	Check battery polarity, replace with new AAA batteries.
Inaccurate readings.	Probe not fully inserted. Damaged probe. Incorrect probe type selected (K vs J). Need for ADJ compensation.	Ensure probe is securely connected. Inspect probe for damage; replace if necessary. Verify the correct thermocouple type is selected (if applicable, check manual for type switching). Perform ADJ compensation as per section 6.7.
Display shows "OL" or "---".	Temperature out of measurement range or open circuit in probe.	Ensure temperature is within specified range. Check probe connection and integrity.
Alarm not functioning.	Alarm limits not set or alarm function disabled.	Set high/low alarm limits as described in section 6.6. Ensure alarm is enabled.

9. Specifications

Model	THE-343
Measurement Range	-200°C to 1372°C (-328°F to 2501°F)
Accuracy (Main Unit)	±0.2% + 0.7°C
Resolution	0.1°C/°F (for -100°C to 999.9°C); 1°C/°F (for ≥1000°C)
Wired K-Type Probe Accuracy	±2.5% (-20°C to 200°C)
Stainless Steel K-Type Probe Range	-50°C to 700°C (-58°F to 1292°F)
Display	LCD, 4 digits (37 x 41 mm screen size)
ADJ Compensation Range	-9°C to 9°C (-15.3°F to 15.3°F)
Sampling Rate	1 time/second
Auto Power Off	10 minutes (can be canceled manually)
Power Supply	3 x AAA 1.5V Batteries
Product Dimensions	152mm (5.98") x 55mm (2.16") x 33mm (1.29")
Weight	580g (1.28 lbs)

Included Components	Thermometer, 4 Thermocouple Probes, Carrying Pouch, Manual, Batteries

Figure 9.1: Physical dimensions and weight of the THE-343 thermometer.

10. Applications

The Gain Express THE-343 Thermocouple Thermometer is suitable for a wide range of applications, including but not limited to:

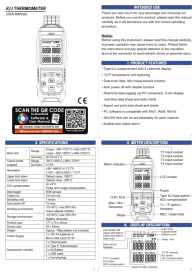
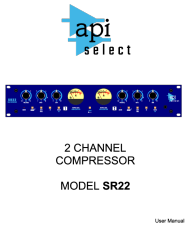
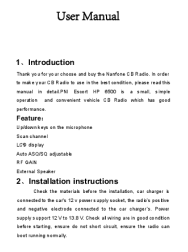
- HVAC system diagnostics and maintenance
- Laboratory research and experiments
- Food service and cooking (e.g., BBQ, oven temperature monitoring)
- Industrial process monitoring
- Refrigeration equipment testing
- Aquarium temperature monitoring

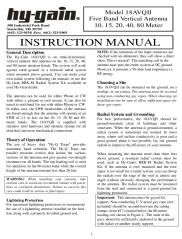
Figure 10.1: Diverse applications of the THE-343 Thermometer.

11. Warranty and Support

Gain Express products are manufactured to high-quality standards. For warranty information, technical support, or service inquiries, please refer to the contact details provided in the original product packaging or visit the official Gain Express website. Please retain your proof of purchase for warranty claims.

Related Documents - THE-343

	K/J Thermometer User Manual - Features, Specifications, and Operation Comprehensive user manual for the K/J Thermometer, detailing product features, technical specifications, meter description, button functions, setup procedures, data logging, and battery replacement. Learn how to use the 4-channel K/J thermometer for accurate temperature measurements.
	API Select SR22 Dual Channel Compressor User Manual Detailed user manual for the API Select SR22 Dual Channel Compressor, covering its features, controls, technical specifications, and warranty information.
	Nanfone CB Radio PNI Escort HP 6500 User Manual User manual for the Nanfone CB Radio PNI Escort HP 6500, detailing its introduction, installation, control panel functions, operation, and FCC compliance.

	AnyTone ARES II CB Radio Instruction Manual Comprehensive instruction manual for the AnyTone ARES II CB radio, covering features, installation, operation, and specifications.
	TEAC SA-100D TEAC SA-100D DC
	Hy-Gain 18AVQII Five Band Vertical Antenna Instruction Manual Instruction manual for the Hy-Gain 18AVQII Five Band Vertical Antenna, covering general description, theory of operation, installation, radial systems, and final adjustments for amateur radio bands.