



# 343 Dual K-type Thermometer

## 343 APPLICATIONS

### HVAC/R

- Ambient Air
- Calibrate Thermostats
- Compressor Heads
- Registers
- Temperature Differential
- Vents

### FOOD

- Grill & Surface Temperatures

### ELECTRICAL

- Cables
- Circuit Breakers
- Connections
- Machinery
- Motors & Transformers

Thermocouple type indicator

°F/°C unit selector

Display mode indicator (T1, T2, T1-T2)

Select between Celsius or Fahrenheit display

Record and display minimum and maximum temperatures

Protective rubber boot

Shown actual size:  
5.75" x 2.75" x 1.5"  
41mm x 152mm x 77mm

Easy-to-read main display

Displays OFL to display disengaged or open probe

On/off button with guard to prevent accidental engagement

Select input T1 or T2 and display temperature differential (T1-T2)

Freezes the reading on the display

### CALIBRATION

Perform ice bath calibration\* to achieve  $\pm 1^\circ\text{F}$  within the  $30^\circ\text{F}$  to  $120^\circ\text{F}$  temperature range. Calibration is an easy two-step process performed through the keypad and does not require the use of additional tools.

### KITS AVAILABLE:

**343C1 (For High Temperature, over 400°F):**  
343; A304 tilt-stand protective boot; (2) GK11M fiberglass, beaded, K-type thermocouple probes; A340 soft pouch

**343C2 (For Low Temperature, under 400°F):**  
343; A304 tilt-stand protective boot; (2) GK13M Teflon, beaded, K-type thermocouple probes; A340 soft pouch

**343C3 (For Differential Temperature):**  
343; A304 tilt-stand protective boot; (2) CK21M K-type thermocouple pipe clamp probes; (1) GK13M Teflon, beaded, K-type thermocouple probe; A908 shoulder strap carrying case

\* Ice bath calibration is performed to account for accuracy variations in thermocouple probes and to achieve  $\pm 1^\circ\text{F}$  within the  $30^\circ\text{F}$  to  $120^\circ\text{F}$  temperature range. Use the VKF300M to verify accuracy of K-type thermometers at several different temperatures and calibrate the TPI 343.

### ACCESSORIES: See back page for additional accessories.

#### Pipe Clamp Probe CK21M

- Saves Time and Frees Hands!
- More Accurate than non-mechanical connections!



For pipe diameters up to 1.2" (30 mm) and temperatures up to 212° F (100° C)



#### Calibrator VKF300M

Use to verify accuracy of K-type thermometers and calibrate the TPI 343. Reliable K-type thermocouple, low-battery indicator, and easy on-site thermometer calibration checking. Accuracy at 23°C is  $\pm 0.5$  or 0.9% °F.

#### Shoulder Strap Case A908

Standard with 343C3 kit



#### Tilt Stand A304

Standard on all 343 kits.



The Value Leader™



# Specifications and Optional Probes

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## 343 SPECIFICATIONS:

<b>Input</b>	Dual K-type thermocouple
<b>Temperature Range</b>	-58°F to 2,462°F (-50°C to 1,350°C)
<b>Display</b>	0.1°C/°F : up to 999.9°C/°F 1.0°C/°F : above 1,000°C/F
<b>Accuracy</b>	±3°F(±1.6°C) from: -58°F to 32°F (-50°C to 0°C) ±0.3% of rdg +1.8°F (1°C) from: 32°F to 1,100°F (0°C to 600°C) ±0.4% of rdg +1.8°F (1°C) from: 1,100°F to 2,462°F (600°C to 1,350°C)
<b>Update Rate</b>	2.5 times/second
<b>Key Buttons</b>	On/Off, T1, T2, T1-T2, °C, °F, HOLD
<b>Field Calibration</b>	By key operation
<b>Operating Temperature</b>	32°F to 122°F (0°C to 50°C)
<b>Storage Temperature</b>	-13°F to 158°F (-25°C to 70°C)
<b>Battery</b>	9V
<b>Battery Life</b>	200 hours (Alkaline)

## OPTIONAL K-TYPE PROBES:

Model # Description	Application	Range °F °C	Stem Length Diameter Lead Length	Insulation Material
<b>CK18M</b> Wide contact surface probe	Restaurant Grills	-58° to 500°F -50° to 250°C	NA 39.4" (1M) .39" (10mm)	Polyurethane
<b>CK21M</b> K-type thermocouple pipe clamp for pipe diameters up to 1.2" and temp. up to 212°F	Pipe Clamp	-58° to 212°F -50° to 100°C	NA .39"(10mm) 39.4"(1M)	PVC
<b>FK26M</b> Use with Pete's plugs to measure water temp. and temp. up to 212°F	For Pete's Plug	-40° to 400°F -40° to 204°C	2.5" (63.5mm) .125" (3.18mm) 25.5" (.6M)	Teflon
<b>GK11M</b> Standard K-type thermocouple probe	Air Temp.	-40° to 9,500°F -40° to 510°C	NA NA 1.2M	Fiberglass
<b>GK12M</b> Standard K-type thermocouple probe w/oven clip	Food Processing	-40° to 400°F -40° to 204°C	NA NA 1.2M	Teflon
<b>GK13M</b> Beaded probe with FDA approved insulation	General Purpose Air	-40° to 400°F -40° to 204°C	NA NA 1.2M	Teflon
<b>GK14M</b> K-type air probe shielded to protect sensing area	Food Immersion	-40° to 510°F -40° to 265°C	4" 3.75mm 1M	PVC

## PROBE FACTS:

### What is the difference between thermocouple and thermistor probes?

Thermocouple probes utilize the reaction between two dissimilar metals to produce a voltage that changes as temperature changes. A thermistor is a resistive device that produces a change in resistance with a change in temperature. In general, thermocouples offer a wider temperature range and quicker response time than thermistors. Thermistors are typically more accurate than thermocouples.

### How are thermocouple types different?

Each thermocouple uses different metals and therefore have different characteristics. Here are general guidelines:

**K-Type:** Wide temperature range, use in many digital thermometers and multimeters. Identify by yellow connector.

**J-Type:** Narrower temperature range than K-type, use in analog and digital thermometers. Identify by black connector.

**T-Type:** Narrower temperature range than J-type but more accurate than K and J types, use in digital thermometers. Identify by blue connector.

### Can different thermocouple types be interchanged?

**No.** Since each thermocouple type is constructed with different metals they have different output characteristics. Using a J-type thermocouple in a K-type thermometer will cause measurements to be very inaccurate.

### What type of probe should I use?

Probe type used depends on the specific application. General guidelines for different probe types follow:

**Penetration :** General-purpose probe used for immersion and air temperature measurements. Response time in air is slower than an air probe because the tip is not exposed.

**Chisel:** General-purpose tip used for surface, immersion, and air temperature measurements. Response time in air or on surfaces is slower than an air or surface probe because of the tip design.

**Air:** Exposed tip probe provides the fastest response time when measuring air temperatures. Not useful for surface or immersion testing.

**Surface:** Contact tip probe provides fastest response time when measuring surface temperatures. Probe tip offers maximum temperature transfer in surface applications. Not useful for air or immersion testing.

**Beaded:** General-purpose probe used in immersion and air temperature measurements. Exposed tip allows for fast reaction time. Not useful in semi-solids.