# **Exceptional Accuracy Digital Thermometers** Single and Dual Input Models

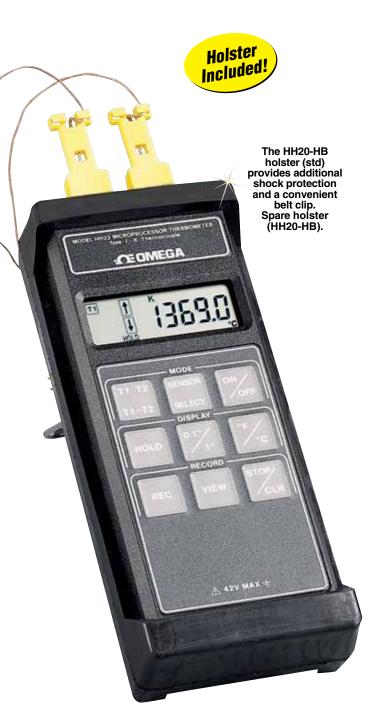
# HH-20A Series

- Each Unit Comes with a Certificate Stating NIST-Traceability (No Points)
- Single and Dual Input Models with Display Hold
- Dual Input Models Feature Trend, Min/Max and Differential Measurements
- HH-21A and HH-23A Accept J, K and T Inputs
- HH-22A Accepts J and K Inputs
- 0.1 Resolution in °F and °C Over Full Range
- High 0.1% Reading Accuracy
- Self-Diagnostics and Retention of User Programming
- RoHS Compliant
- Optional Power Supply

The HH-20A series microprocessor-based handheld thermometers offer wide-ranging temperature readings and feature state-of-the-art innovations. The easy-to-read custom 5-digit LCD readout with trend display and self-diagnostics are all standard. The case is drop/splash and dust-proof, and has a built-in tilt stand/handle for bench use or hands-free field measurements.

The HH-21A is a single input unit that accepts J, K and T thermocouple types. From the front panel, the user can select the thermocouple type, display units (°C or °F), and display resolution ( $0.1^{\circ}$  or  $1^{\circ}$ ). The HH-21A also has a display hold function. As with all HH-20A series units, the HH-21A features exceptionally high accuracy, 0.1% of reading plus  $1^{\circ}F$ .

The HH-22A and HH-23A accept dual inputs. The HH-22A accepts either J or K thermocouples, while the HH-23A works with J, K or T types. Both models can display T1 (input 1), T2 (input 2), T1-T2 (difference), or scan between T1, T2 and T1-T2. Standard features for both the HH-22A and HH-23A include display hold, min and max storage, and trend indication. The min and max functions record minimum and maximum values for T1, T2 and T1-T2. Trend indication shows if the displayed input is increasing, decreasing or stable.



HH-22A dual J/K input, shown smaller than actual size. Each unit supplied with 2 Type K beaded wire thermocouples, integral tilt stand, wrist strap, 9V battery, protective rubber holster (HH20-HB), NIST certificate and operator's manual.

When you turn on an HH-20A, it remembers what you were doing; the thermocouple type, resolution, and temperature units are stored in non-volatile memory so you don't have to reprogram every time you start up.

#### Specifications

**Display:** 5-digit LCD; custom indicators for thermocouple type°C/°F units, hold and low battery; HH-22A and HH-23A have additional indicators for input (T1, T2, T1-T2, scan), up/down trend arrows and min/max data storage

**Keypad:** Momentary switches with tactile feedback; on/off, thermocouple type, units, resolution, hold; HH-22A and HH-23A have additional keys for record min/max, view min/max, stop/clear record input type (T1, T2, T1-T2, scan)

Configuration Retention: Selected readout, input type, units and resolution retained on power-off Diagnostics: Low battery, open thermocouple, invalid keypad entry, out of range, internal hardware fault

Accuracy: 0.1% rdg + 0.6°C (1°F) **Repeatability:** 0.2°C for 1 week at constant temperature



- 6 Inputs with Rotary Selector
- Works with a Wide Variety of Handheld Meters
- 2-Position Output Connector for Single and Dual Input Thermometers
- Available for J, K and T Calibrations

#### Specifications

**Operating Ambient:** 0 to 50°C; less than 90% RH to 35°C; reduce RH limit by 3%/°C from 35 to 50°C **Connectors:** 1 male, 6 female subminiature thermocouple connectors, type SMP **Dimensions:** 127 H x 71 W x 38 mm D (5 x 2.8 x 1.5")

Weight: 341 g (12 oz)

To Order	
Model No.	Description
HH20SW-(*)	Multiprobe switchbox
SMP-(*)-M	Mating male connector

Comes complete with operator's manual. \* Specify calibration: J, K, or T. Ordering Example: HH20SW-J, multiprobe switchbox, SMP-J-M, mating male connector. **Resolution:** 0.1° throughout entire range

**Temperature Coefficient:** (0.02% rdg + 0.1°C) below 64°F (18°C) and over 82°F (28°C); included in accuracy, between 18 and 28°C (64 and 82°F) **Ambient Temperature:** 

0 to 50°C (32 to 122°F), 0 to 90% RH Reading Rate: 1 per second

Max Common Mode Voltage: 42V peak to earth ground

Power: 9 Vdc battery, alkaline (included)

**Battery Life:** 100 h, typical, alkaline battery

**Dimensions:** 178 H x 74 W x 28 mm D (7.0 x 2.9 x 1.1")

Weight: 284 g (10 oz)

Accessories Included: 9 Vdc alkaline battery, beaded wire Type K probe (for each input), integral tilt stand/ handle, wrist strap, rubber holster, NIST certificate, and operator's manual

The HH20SW, multiprobe switchbox allows up to 6 probes. Order below.

The HH20CAL, turns a handheld into a portable calibrator for checking calibration on other J, K, and T instruments. Order below.

#### Input Ranges

Туре	°C Range	°F Range
J	-210 to 760	-346 to 1400
K	-200 to 1372	-328 to 2502
Т	-200 to 400	-328 to 752

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### To Order

Model No.	No. of Inputs	Input Types
HH-21A	1	J/K/T
HH-22A	2	J/K
HH-23A	2	J/K/T

Comes complete with beaded wire Type K probe (for each input), integral tilt stand/handle, wrist strap, 9V battery, shock resistant holster (HH20-HB) and operator's manual.

**Ordering Example: HH-22A**, digital thermometer with Type J/K input, OMEGACARE<sup>™</sup> extends standard 3-year warranty to a total of 5 years.

Accessories

Model No.	Description
SC-450L	Soft carrying case
HH20-HB	Spare protective rubber holster
HH22A-AC	9V NiMH battery with 110 Vac charger for HH-21A, HH-22A or HH-23A (US plug)
HH20A-U	Universal 9V NiMH battery with 110 Vac charger (with plug-in clips for USA, UK, Europe and Australia) for HH-21A, HH-22A or HH-23A
MN1604	Replacement alkaline battery
CAL-3-HH	NIST-traceable calibration with points
(*)TSS-HH	General purpose meter probe
HH20CAL	Portable calibrator module
HH20SW-(*)	Multiprobe switchbox



OMEGACARE<sup>™</sup> extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE<sup>™</sup> covers parts, labor and equivalent loaners.

(\*) Specify calibration J, K or T.