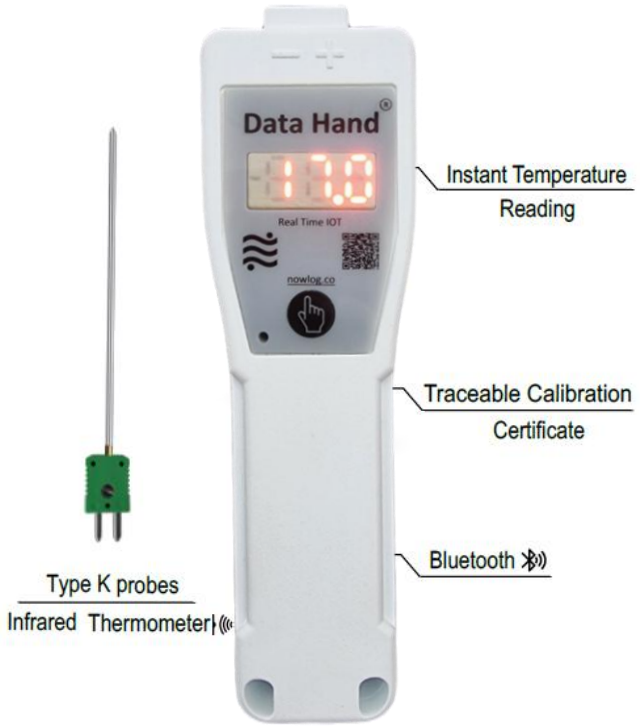
Product: Data Hand AA

Description: Bluetooth Thermometer



Revision History

Revision	Date	Reason	Edited By
A	20/05/24	Re Created	Lee Fleck

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1. Introduction

The Data Hand AA is a Handheld Thermometer with Bluetooth connectivity. It comes with a Calibration Certificate for compliance with Health and Safety regulations. Accuracy is guaranteed to better than +/- 0.5^{o}C. Readings are updated every second on the large 3 digit LED display.

Plug in stainless steel type K thermocouple probes are used for insertion measurements. An rear mounted infrared sensor is used for non invasive surface temperature measurements. Infrared measurements are instantaneous allowing multiple measurements to be taken quickly.

An Android only configuration App is available for use with the Data Hand. The App gives access to all settings and provides a calibration interface for both Type K and Infrared.

A second App (Android and iOS) is available for workflow monitoring applications such as HACCP. The App is dynamically configurable using templates. Custom templates are generated by creating tasks to be performed and then scheduling them. The App can synch in real time across multiple devices – that is – any number of mobile phones or tablets and has a master web portal instance. Reports can be automatically scheduled or created as a task for an operator to perform.

The App features an auto connect to Bluetooth algorithm. This is available for incorporation in existing user applications.

2. Enclosure

The custom injection mould cases are manufactured in Medical Grade ABS plastic (with anti bacterial additive). Specifically, in MAGNUM ABS 8391 (complies with U.S.FDA FCN 1525) and in colour - RAL7035 - Light Grey.

The front of the DH is sealed with a membrane keypad which integrates the push button.

3. Features and Accessories

Sounder

The user may be remote from its connected mobile device. The Data Hand incorporates a sounder which emits a single beep when a Bluetooth transmission is made and a double beep when an acknowledgement is received back. Confirmation of connection is very ergonomic in everyday use.

Sample and Hold

When out of range or disconnected from the App, press the push button and the current measurement will be held. The held value will be flashed on the display and the sounder beeps once per second.

When back in range or reconnected to the App, the held measurement will be sent to the App, the sounder beeps twice in acknowledgement and the Data Hand returns to updating temperatures once per second.

Auto switch over

When the type K thermocouple probe is plugged in, the Data Hand automatically switches to Insertion Probe mode.

When the type K thermocouple probe is unplugged, the Data Hand automatically switches to Infrared mode. If enabled the Red Laser pointer will illuminate. This indicates the location where the temperature is being measured.

Robustness

Handheld devices are regularly dropped and the internal electronics are mounted on shock absorbing bushings.

Environmental protection and stowage

Rubber bungs are used to seal both the insertion probe and infrared ports.



A port at the base of the unit is used to hold unused bungs. A wrist strap is available as an optional extra.

Bluetooth options

The Data Hand can operate both in Bluetooth Classic and Bluetooth Low Energy modes. The Bluetooth "name" can be configured with an identification string e.g. "DataHand" and also shows the serial number of the device.

Power Options

The Data Hand has a Run mode, a Standby Mode and an OFF mode with settable timeout. In Standby mode it maintains its Bluetooth connection to a host device. It can be powered by 2 x AA batteries or a Li Ion battery with Qi wireless charging.

3. Specifications

Storage and Use	**-40°C to + 70°C 0 -100 %RH**
Lifetime	**MTBF 10 years (Mean Time Between Failure)**
Size	**180mm (High) x 50mm (Width) x 25mm (Depth)**
Weight	**110 grams**
Measurement Range	**-270°C to +999°C [Plug in Insertion Probe]** **-40°C to + 150°C [Infrared]**
Response Time $t_{63\%}$	**Plug in Insertion Probe 15 seconds** **Infrared 1 second**
Typical Accuracy See [1] below	**Plug in Insertion Probe +/- 0.3°C** **Infrared +/- 1.0°C**
Resolution	**Plug in Insertion Probe +/- 0.1°C** **Infrared +/- 0.1°C**
No use timeout	**Settable 1 minute to 8 hours Default 5 minutes**
Display	**Red LED 1 cm TALL bright digits.**
Standby timeout	**Settable 1 minute to 8 hours Default 5 minutes**
Battery Types	**2 x AA disposable OR 2 AHr Lithium Polymer**
Battery Lifetime See [2] below	**6 months Change or Recharge.**
Dust and Water Ingression	**IP65**

Note [1] Accuracies depend on the calibration process used. Infrared measurements depend upon the surface emissivity of the product being measured. In practice accuracies of +/- 2.0°C are typical.

Note [2] Depends on intensity of use. Values are given for 2AHr battery capacity with the Data Hand making 25 measurements per day.