

RHTemp1000IS

Description	RHTemp1000IS
Temperature Sensor	Internal semiconductor
Temperature Range	-40 °C to +80 °C (-40 °F to +176 °F)
Temperature Resolution	0.1 °C (0.18 °F)
Calibrated Accuracy	±0.5 °C (0 °C to 50 °C)
Humidity Sensor	Internal semiconductor
Humidity Range	0 %RH to 100 %RH
Humidity Resolution	0.5 %RH
Calibrated Accuracy	±3.0 %RH
Memory	21,845/channel
Reading Rate	1 reading every 2 seconds up to 1 reading every 12 hours
RH Units	%RH, dew pt., water vapor concentration (mg/ml)
Alarm	No
Required Interface Package	IFC110 or IFC200
Baud Rate	2,400
Typical Battery Life	1 year
Operating Environment	-40 °C to +80 °C (-40 °F to +176 °F), 0 %RH to 100 %RH
Material	Available in Aluminum or AISI 303 Stainless Steel
Dimensions	5.4 in x 1.0 in dia. (138 mm x 26 mm dia.)
Weight (RHTemp1000IS)	5 oz (145 g), Aluminum
Weight (RHTemp1000IS-SS)	10 oz (285 g), AISI 303 stainless steel
Approvals	CE, IS Rated

Battery Warning

WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT SHORT CIRCUIT, CHARGE, FORCE OVER DISCHARGE, DISASSEMBLE, CRUSH, PENETRATE OR INCINERATE. BATTERY MAY LEAK OR EXPLODE IF HEATED ABOVE 80 °C (176 °F).

Specifications subject to change.

See MadgeTech's terms and conditions at www.madgetech.com



RHTemp1000IS

Intrinsically Safe Humidity and Temperature Recorder

RHTemp1000IS-SS

Intrinsically Safe Temperature Recorder with Stainless Steel Enclosure

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Product Notes

Intrinsic Safety Approval

The RHTemp1000IS has been certified by FM Approvals as Intrinsically Safe (IS) for use in Class I, Division 1, groups A, B, C, D, and Non-incendive (NI) for use in Class I, Division 2, groups A, B, C, D Hazardous (Classified) Locations. The rating listed in the Factory Mutual approval guide is as follows:

- RHTemp1000IS. Temperature and Humidity Recorder.

IS / I / 1 / ABCD T4A Ta = 80 °C; NI / I / 2 / ABCD / T4A Ta = 80 °C

These are the only safety ratings relevant to the use of this product. Use of this product in hazardous environments not specifically covered by this rating, is prohibited, unless the user takes the appropriate steps to ensure the safety of the product and assumes full responsibility for its safe use.

Getting Started

To access the COM Port for the interface cable, unscrew the key-ring end cap. Ensure the key-ring end cap is screwed on tightly before deploying the data logger.

Humidity Readings

The enclosure is designed with a vented end cap. To record humidity, unscrew the vented endcap to expose the humidity sensor to the air. The cap is fully open when it becomes difficult to turn. Do not allow water or other liquids to come into contact with the inside of the sensor compartment. If the device needs to be submerged, screw the vent cap on until the o-ring cannot be seen.



ETO Sterilization

Humidity sensors are affected by the EtO process. In time, the humidity sensor tolerance will degrade. MadgeTech recommends frequent humidity sensor replacement every 6-12 months when used in this environment.

O-Rings

O-ring maintenance is a key factor when properly caring for the RHTemp1000. The o-rings ensure a tight seal and prevent liquid from entering the inside of the device. Please refer to the application note "O-Rings 101: Protecting Your Data", found on the MadgeTech website, for information on how to prevent O-ring failure.

Installation Guide

Installing the Interface cable

- IFC200: Insert the device into a USB port. The drivers will install automatically.
- IFC110: Plug the serial cable into the port and verify it is secure.
- USB-1 or USB-101: Install the USB drivers from the CD provided in the kit, then plug the USB cable into the computer and the serial cable into the serial port.

Installing the software

Insert the Software USB Stick in an open USB port. If the autorun does not appear, locate the drive on the computer and double click on **Autorun.exe**. Follow the instructions provided in the Wizard.

Device Operation

Connecting and Starting the data logger

- Once the software is installed and running, plug the interface cable into the data logger.
- Connect the USB end of the interface cable into an open USB port on the computer.
- The device will appear in the Connected Devices list, highlight the desired data logger.
- For most applications, select "**Custom Start**" from the menu bar and choose the desired start method, reading rate and other parameters appropriate for the data logging application and click "**Start**". ("**Quick Start**" applies the most recent custom start options, "**Batch Start**" is used for managing multiple loggers at once, "**Real Time Start**" stores the dataset as it records while connected to the logger.)
- The status of the device will change to "**Running**", "**Waiting to Start**" or "**Waiting to Manual Start**", depending upon your start method.

Note: The device will stop recording data when the end of memory is reached or the device is stopped. At this point the device cannot be restarted until it has been re-armed by the computer.

Downloading data from a data logger

- Connect the logger to the interface cable.
- Highlight the data logger in the Connected Devices list. Click "**Stop**" on the menu bar.
- Once the data logger is stopped, with the logger highlighted, click "**Download**". You will be prompted to name your report.
- Downloading will offload and save all the recorded data to the PC.

Device Maintenance

Battery Replacement

Materials: [Small Needle Nose Pliers and Replacement Battery \(TL-2150\)](#)

- Carefully unscrew the sensor end cap and pull the electronics out.
- The battery is the purple cylinder on the circuit board.
- Gently pull out the old battery.
- Insert the new battery one lead at a time, using pliers to fully push the leads into the sockets.
- Ensure the circuit board is inserted into the white plastic bushing. The sensor cable should not be twisted, or kinked. From the connection to the circuit board, it should run up towards the battery, then down to the sensor.
- Insert the electronics back into the tube and carefully screw the cap on.

Recalibration

The RHTemp1000IS standard calibration is one point at 25 °C and two points at 25 %RH and 75 %RH.

Pricing:

Recalibration traceable to NIST	\$110.00
Recalibration	\$70.00

Additional Services:

Custom calibration and verification point options available, please call for pricing.

Call for custom calibration options to accommodate specific application needs.

Prices and specifications subject to change. See MadgeTech's terms and conditions at www.madgetech.com

To send devices to MadgeTech for calibration, service or repair, please use the MadgeTech RMA Process by visiting www.madgetech.com, then under the services tab, select RMA Process.