RHTemp1000Ex

Intrinsically Safe Temperature and Humidity Data Logger

PRODUCT USER GUIDE

To view the full MadgeTech product line, visit our website at **madgetech.com**.

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Product Overview

The **RHTemp1000Ex** carries hazardous location, intrinsically safe certification in accordance with the latest issue of:
IECEx 60079-0, IECEx 60079-11
Directive 2014/34/EU (known as ATEX)

Certified Intrinsically Safe for:

- Electrical Protection Concepts: IEC: 60079-11 Ex ia – Ex ic, Intrinsic Safety Zones 0-2
- Equipment Protection Level: Ga – Gc, Zones 0-2
- Gas Groups: IIC
- Temperature Class: T4

Operational Warnings

- When used in hazardous locations, the RHTemp1000Ex is to be ***installed prior*** to the location becoming hazardous and removed only after the area is no longer hazardous.
- The maximum allowed ambient temperature for the RHTemp1000Ex (under any circumstances) is 80 °C. The minimum rated operating temperature is -40 °C.
- The RHTemp1000Ex is approved for use only with the Tadiran TL-2150/S battery. Replacement with any other battery will void the safety rating.
- Batteries are user replaceable, but are to be removed or replaced only in locations known to be non-hazardous.
- Tampering or replacement of non-factory components may adversely affect the safe use of the product, and is prohibited. Except for replacement of the battery, the user may not service the RHTemp1000Ex. MadgeTech, Inc. or an authorized representative must perform all other service to the product.

Ordering Information

- 902154-00 — RHTemp1000Ex
- 902208-00 — RHTemp1000Ex-KR (key ring end cap)
- 900319-00 — IFC400
- 900325-00 — IFC406
- 901745-00 — Battery Tadiran TL-2150/S

Installation Guide

Installing the Software

The Software can be downloaded from the MadgeTech website at **madgetech.com**. Follow the instructions provided in the Installation Wizard.

Installing the USB Interface Drivers

IFC400 or IFC406 — Follow the instructions provided in the Installation Wizard to install the USB Interface Drivers. Drivers can also be downloaded from the MadgeTech website at **madgetech.com**.

Device Operation

Connecting and Starting the Data Logger

1. Once the software is installed and running, plug the interface cable into the docking station (IFC400 or IFC406).
2. Connect the USB end of the interface cable into an open USB port on the computer.
3. Place the data logger into the docking station (IFC400 or IFC406).
4. The data logger will automatically appear under **Connected Devices** within the software.
5. 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.)*
6. The status of the device will change to **Running** or **Waiting to Start**, depending upon your start method.
7. Disconnect the data logger from the interface cable and place it in the environment to measure.

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

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Device Operation (cont'd)

Downloading Data from a Data Logger

1. Place the logger into the docking station (IFC400 or IFC406).
2. Highlight the data logger in the **Connected Devices** list. Click **Stop** on the menu bar.
3. Once the data logger is stopped, with the logger highlighted, click **Download**.
4. Downloading will offload and save all the recorded data to the PC.

Device Maintenance

Battery Replacement

Materials: Replacement Battery (Tadiran TL-2150/S)

1. Move device to a non-hazardous location before replacing battery.
2. Observe Operational Warnings when removing and replacing the battery.
3. Unscrew the bottom of the data logger and remove the battery.
4. Place the new battery into the logger. ***Caution:*** *Observe correct battery polarity when installing.*
5. Screw the cover onto the data logger.

O-Rings

O-ring maintenance is a key factor when properly caring for the RHTemp1000Ex. 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 at **madgetech.com**, for information on how to prevent O-ring failure.

Recalibration

Recalibration is recommended annually. To send devices back for calibration, visit **madgetech.com**.

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 ***madgetech.com****.*

To send devices to MadgeTech for calibration, service or repair, please use the MadgeTech RMA Process by visiting ***madgetech.com****.*

Communication

To ensure desired operation of the RHTemp1000Ex, **please keep the surface clear of any foreign objects or substances**. The RHTemp1000Ex's data is downloaded through external contact with the IFC400 or IFC406 docking station. Covering the surface with foreign objects **(i.e. Calibration Labels)** can prevent the communication and/or downloading process.

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APPENDIX A

EU Declaration of Conformity

No. DC-2020-250

According to EN ISO/IEC 17050-1:2004

The name and address of the manufacturer:

MadgeTech, Inc.
6 Warner Road
Warner, NH 03278 USA

Product model and description:

902153-00 - Temp1000EX-2
902154-00 - RHTemp1000EX
902155-00 - Temp1000EX-1
902156-00 - Temp1000EX-5.25
902157-00 - Temp1000EX-7
902208-00 - RHTemp1000EX-KR
902209-00 - Temp1000EX-1-KR
902210-00 - Temp1000EX-2-KR
902211-00 - Temp1000EX-5.25-KR
902212-00 - Temp1000EX-7-KR

This product conforms with the following Union harmonization legislation:

2014/34/EU – ATEX Directive

The following harmonized standards and other technical specification were used in support of the declaration:

Harmonized Standards: EN 60079 - 0 Edition 2018
EN 60079 -11 Edition 2012

Notified body SGS Fimko Oy, number 0598 performed EU-Type examination in accordance with Annex III of the directive and issued the certificate: Baseefa19ATEX0126

Notified body SGS Fimko Oy, number 0598 performed Conformity to type based on quality assurance of the production process in accordance with Annex IV of the directive and issued the QA Notification document: Baseefa19ATEX0126

Additionally, product complies with the essential requirements, and carries the CE marking accordingly with:

2014/30/EU – EMC Directive
2015/863/EU – RoHS3 Directive
1907/2006/EU – REACH Directive

And conforms with the following product standards and/or normative documents:

IEC 61326-1 Edition 2013

Emission Requirements

CISPR 11, Radiated Emissions, 30 MHz to 1 GHz
Limit: CISPR 11, Group 1, Class A
Limit: FCC Class A

Enclosure Port

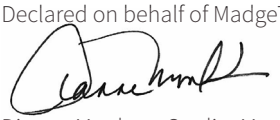
IEC 61000-4-2, Electrostatic Discharge
Level: 4 kV Contact, 8 kV Air Discharges

IEC 61000-4-3, Radiated Immunity (EM Field)
Level: 10 V/M, 80 to 1000 MHz
3 V/M, 1.4 to 2.0 GHz
1 V/M, 2.0 to 2.7 GHz

Supplementary Information:

The products were tested in a typical usage configuration.
RoHS Exemptions applied 6(a)), 7(c)-II

Declared on behalf of MadgeTech, Inc.



Dianne Moulton, Quality Manager
Issued from: MadgeTech, Inc. Warner, NH USA Issued on: