

User Manual



RHDL50

Humidity and Temperature Datalogger



Introduction

Congratulations on your purchase of the Triplet RHD50 Relative Humidity and Temperature Datalogger with LCD Display. This datalogger measures and stores up to 16,000 relative humidity and 16,000 temperature readings over 0 to 100%RH and -40 to +70°C (-40 to +158°F) measurement ranges. The user can easily configure the logging rate, high/low alarm and start-mode, and download the stored data by plugging the module into a PC's USB port and running the supplied PC software. Relative Humidity, Temperature and Dew Point data can then be graphed, printed and exported to other applications. The data logger is supplied with a long-life lithium battery, which can typically allow logging for one year. This meter is shipped fully tested and calibrated and, with proper use, will provide years of reliable service. Please visit our website (www.triplett.com) to check for the latest version of this User Guide, Product Updates, and Customer Support.

Features

Memory for 32,000 readings (16,000 temperature and 16,000 humidity readings)

Dew point indication via supplied Windows™ Software

Selectable data sampling rate: 2s, 5s, 10s, 30s, 1m, 5m, 10m, 30m, 1hr, 2hr, 3hr, 6hr, 12hr, 24hr

Status Indication via Red/Yellow LED and Green LED

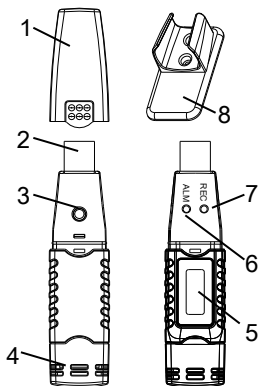
USB Interface for Set-up and Data Download

User-Programmable Alarm Thresholds for Relative Humidity and Temperature

Long battery life

Description

1. Protective cover
2. USB connector to PC port
3. Start button
4. RH and Temperature sensors
5. LCD Display
6. Alarm LED (red/yellow)
7. Record LED (green)
8. Mounting clip



LCD Display

1. Short press the button change the display. Temperature units change by the PC software.











Temperature (°F/°C)



Humidity (RH%)

LED Status Indication

| LEDs | | Meaning | Action |
|---|---|---|---|
| Record | Alarm | No LEDs flashing -No logging in process Or -No battery found Or -Battery completely discharged | Fit battery in place Replace the battery and download the data |
|  |  | | |
| Record | Alarm | Green single flash every 10 sec. * -Logging, no alarm** Green double flash every 10 sec. * -Delayed start | To start, Hold the start button until Green and Yellow LED flash |
|  |  | | |
| Record | Alarm | Red single flash every 10 sec. * -Logging, low alarm for RH Red double flash every 10 sec. ‡ -Logging, high alarm for RH Red single flash every 60 sec. - Low Battery † | Logging, if enabled, will stop automatically. No data will be lost. Replace battery |
|  |  | | |
| Record | Alarm | Yellow single flash every 10 sec. * -Logging, low alarm for TEMP Yellow double flash every 10 sec. ‡ -Logging, high alarm for TEMP Yellow single flash every 60 sec. - RHT10 memory full | Download data |
|  |  | | |

- To save power, the RHD150's LED flashing cycle can be changed to 20s or 30s via the supplied software.
- To save power, alarm LEDs for temperature can be disabled via the supplied software.
- When the battery is low, all operations will be disabled automatically. NOTE: Logging automatically stops when the battery weakens (logged data will be retained). The supplied software is required to restart logging and to download logged data.
- When both temperature and relative humidity readings exceed alarm level simultaneously, LED status indication alternates every other cycle.

Operation

System Software Required:

Windows 7, Windows 8.1 or Windows 10

Minimum Hardware Required:

PC or Notebook with Pentium 90MHz or higher 32 MB RAM;
At least 7 MB of hard disk space available to install Datalogger USB software.

Recommended display resolution 1024X768 with High Color(16 bit).

INSTALLING THE GRAPHING SOFTWARE and USB driver

Install the supplied Windows PC Datalogger Software by placing the supplied program disk in the PC's CD-ROM drive or by downloading the program from the <http://Extech.com/instruments/software.asp> web page.

If the installation program does not automatically open and provide on-screen prompts, open and browse the CD-ROM drive, then find and double-click on the SETUP.EXE file included on the program disk. Follow the on-screen prompts to complete the installation.

Software Install

Run SETUP.up.exe and follow the defaults to install the RHDLS0 software

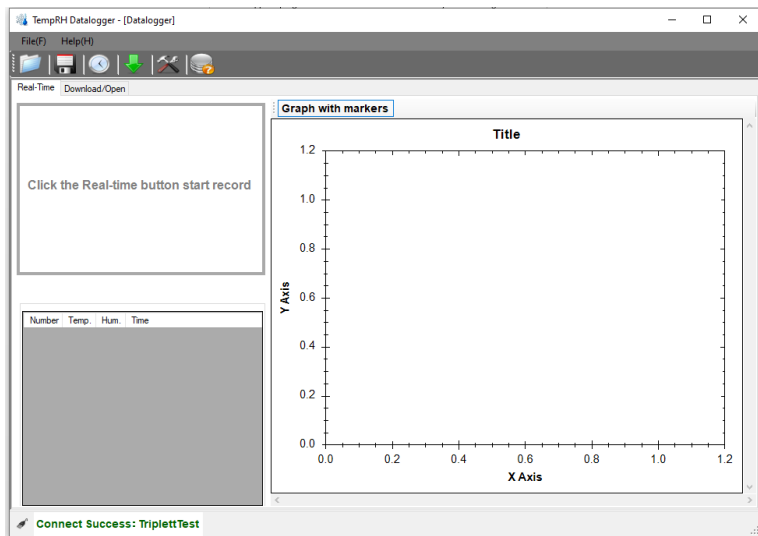
USB Driver Install

1. Open the root folder of the RHD150.
2. Open the folder Driver\DriverUSBXPRESS and double-click on USBXpressInstaller.exe.
3. Follow the default choices to load this USBXpress driver.

Note: When the RHD150 is connected to the USB port, the battery inside the device is discharged at a higher rate than normal. To conserve battery life, do not leave the RHD150 connected to the USB port for a prolonged period of time

RUNNING THE GRAPHING SOFTWARE

With the RHD150 inserted in the PC's USB port, double-click the Datalogger Graph icon on your desktop to launch the program. The opening screen will appear as shown below.



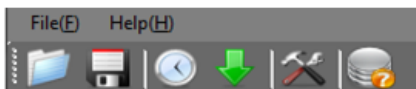
The logger will automatically connect and connection status is shown at the lower left hand corner of the screen.

Click on “Help” and “About” to view the version number,



MENU BAR DESCRIPTION

The main menu for the software appears as follows:



Open a saved file



Save the recorded data



Real time measurement



Download the data



Setting



Help

LOGGER SETUP



Setting ? X

DataLogger Real-time

Sampling

Current Time: 12/1/2021 10:23:35 AM

Start Mode: Manual Instant

Sample Rate: 6s

Max Points: 16000

Record Time: 1Day, 2Hour, 40Min, 0Sec.

Enable high and low alarm

Temperature

High Alarm: 40.0

Low Alarm: 0.0

Humidity

High Alarm: 60.0

Low Alarm: 0.0

Other

LED flash cycle: 5s 10s 15s 20s 25s 30s

Temperature Unit: Fahrenheit

Humidity Unit: %RH

LoggerName : TriplettTest

Default Setup Cancel

- The CURRENT TIME field will automatically synchronize with the PC date and time setting.

- The MANUAL and INSTANT select buttons allow the user to start data logging immediately when the Setup window is exited (INSTANT), or at a later time (MANUAL).
- The LOGGER NAME field allows the user to select a unique name for the RHDL50.
- The SAMPLE POINTS field instructs the RHDL50 to take a fixed number of readings.
- The SAMPLE RATE pull-down menu instructs the RHDL50 to log readings at a specific rate.
- The LED Flash Cycle can be set by the user: longer cycle times help to extend the battery life.
- The ALARM SETTINGS area of the SETUP window allows the user to set high and low temperature and humidity limits and to disable the flashing of the RHDL50's LEDs, thereby conserving battery energy.

Once the changes have been made, click on the SETUP button to save them. Press the DEFAULT button to set the RHDL50 back to factory default conditions. Press the CANCEL button to abort the setup.

Note: Any stored data will be permanently erased when the user clicks on Setup. To save the data before creating a new setup, click Cancel and then download the data.

Note: The battery may run out before the RHDL50 has finished collecting a specified number of sample points. Always ensure that the remaining charge in the battery is sufficient to last the complete duration of your logging exercise. When in doubt, we

recommend that you always install a fresh battery before logging critical data.

If INSTANT was selected in the SETUP window, the RHDL50 begins logging at the instant the SETUP button is pressed. If MANUAL was selected, the RHDL50 must be manually started by pressing and holding the device's yellow button for approx. 3 seconds, or until the two LEDs on the RHDL50 flash at the same time.

Logging will continue at the programmed sample rate until the number of readings (sample points) specified in the Setup window is reached.

The green LED flashes once per sample point and the red or yellow LED flashes when user programmed alarm limits are exceeded. For details, see LED status guide.

REAL TIME SETUP



Set sample time as below.

A screenshot of a software dialog box titled "Setting". The dialog has two tabs: "DataLogger" and "Real-time", with "Real-time" selected. Inside the dialog, there are two input fields: "Sample rate(s):" with a value of "2" and "Max:" with a value of "999". Both fields have up and down arrow buttons. At the bottom of the dialog, there are two unit selection fields: "Temperature Unit:" set to "Fahrenheit" and "Humidity Unit:" set to "%RH". Below these fields are three buttons: "Default", "Setup", and "Cancel".

Setting

DataLogger Real-time

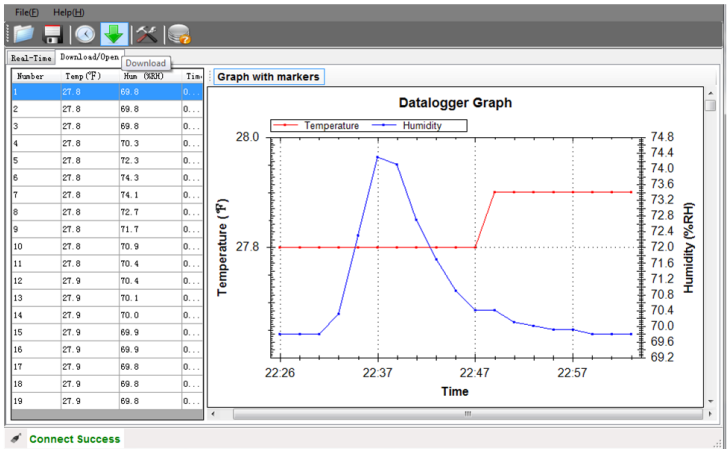
Sample rate(s): 2

Max: 999

Temperature Unit: Fahrenheit Humidity Unit: %RH

Default Setup Cancel

DOWNLOADING DATA



****NOTE: Additional Software Instructions can be found in the HELP Section of the Software for Printing, Saving and Exporting to CSV file.****

Specifications

| | | |
|------------------------------|---|----------------------------|
| Relative Humidity | Overall Range | 0 to 100% |
| | Accuracy (0 to 20 and 80 to 100%) | ±5.0% |
| | Accuracy (20 to 40 and 60 to 80%) | ±3.5% |
| | Accuracy (40 to 60%) | ±3.0% |
| Temperature | Overall Range | -40 to 158°F (-40 to 70°C) |
| | Accuracy (-40 to -30 and +60 to +70°C) | ±1.5°C |
| | Accuracy (-10 to +40°C) | ±1°C |
| | Accuracy (-40 to +14 and 104 to 158°F) | ±3.6°F |
| | Accuracy (+14 to 104°F) | ±1.8°F |
| Dew Point Temperature | Overall Range | -40 to 158°F (-40 to 70°C) |
| | Accuracy (25°C, 40 to 100%RH) | ±4.0°F (±2°C) |
| Logging rate | Selectable sampling interval: From 2 seconds up to 24 hours | |

| | |
|------------------------------|---|
| Operating temperature | -31 to 176°F (-35 to 80°C) |
| Battery type | 3.6V Lithium (1/2 AA) (SAFT LS14250, Tadiran TL-5101 or equivalent) |
| Battery life | 1 year (typ.) depending on logging rate, ambient temperature, & use of Alarm LEDs |
| Dimensions/Weight | 4x1x.9" (101x25x23mm) / 6oz (172g) |

Battery Replacement

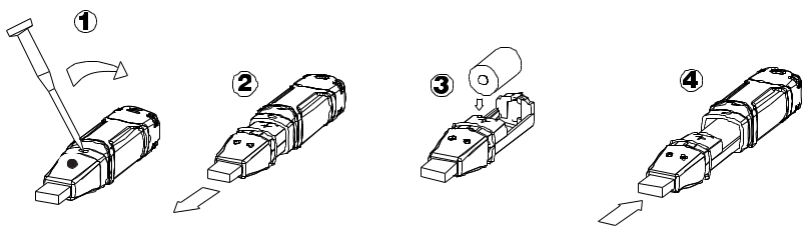
It is highly recommended that the battery be replaced every 12 months, or prior to logging critical data.

The RHD150 does not lose its stored readings when the battery weakens or when the battery is replaced; the data logging process will however be stopped and cannot be re-started until the battery has been replaced and the logged data has been downloaded to PC.

Use only 3.6V lithium batteries. Before replacing the battery, remove the datalogger from the PC.

Follow diagrammatic steps 1 through 4 below.

NOTE: Leaving the RHD150 plugged into the PC USB port longer than necessary will cause some of the battery capacity to be lost.



WARNING: Handle lithium batteries carefully, observe warnings on battery casing. Dispose of in accordance with local regulations.

Safety: Please dispose of batteries responsibly; never dispose of batteries in a fire, batteries may explode or leak. If the meter is not to be used for 60 days or more, remove the battery and store separately.

Warranty

Triplett / Jewell Instruments extends the following warranty to the original purchaser of these goods for use. Triplett warrants to the original purchaser for use that the products sold by it will be free from defects in workmanship and material for a period of (1) one year from the date of purchase. This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons in any way or purchased from unauthorized distributors so as, in our sole judgment, to injure their stability or reliability, or which have been subject to misuse, abuse, misapplication, negligence, accident or which have had the serial numbers altered, defaced, or removed. Accessories, including batteries are not covered by this warranty

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