



# ELEMENT HT

## Wireless Humidity & Temperature Data Logger



### Features

- Wireless Two-Way Communication
- View Data in Real Time
- 3 Year Battery Life
- Battery Life Indicator
- Field Upgradeable
- Audible and LED Alarm Indicators
- Cumulative Alarm Delay

### Benefits

- Fast Installation
- Minimal Long-Term Maintenance
- Full Communication From One PC
- Time and Money Saving with Battery Management
- Reduction of False Alarms

### Applications

- Clean Rooms
- Laboratories and Hospitals
- Medical and Pharmaceutical
- Warehouse mapping
- Storage of Perishable Goods
- Chemical Storage
- Incubator Monitoring
- Greenhouse Monitoring
- HVAC
- Bakery/Cereal Production

### Software Features:

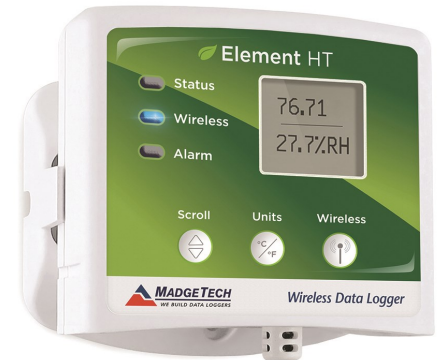
- Multiple graph overlay
- Statistics
- Digital calibration
- Zoom in/ zoom out
- Lethality equations (F0, PU)
- Mean Kinetic Temperature
- Full time zone support
- Data annotation
- Min./Max./Average lines
- Data table view
- Automatic report generation
- Summary view

The Element HT is a wireless temperature and humidity data logger with digital display. The Element HT is ideal for both HVAC studies and everyday temperature and humidity monitoring in both grow and storage rooms. Designed with external humidity and RTD based temperature sensors, the device provides a fast response time for both parameters.

For customer convenience, functions include starting, stopping and downloading from the device wirelessly from a PC with the use of an RFC1000. This allows customers to quickly access data and spend less time maintaining the device. Data can be provided in real time back to a central PC, or the device may be downloaded at periodic intervals. For real time monitoring on the go, simply connect the Element HT to MadgeTech Cloud Services, allowing data to be accessed from any internet enabled device. The digital display provides the current reading for both the humidity and temperature channels with minimum, maximum and average statistics accessible for a quick snapshot of the logged data.

The Element HT features user programmable alarm settings for both temperature and humidity parameters. An audible buzzer and LED alarm indicator notifies users when the temperature or humidity is above or below the threshold set in the alarm. This allows growers to take action faster, saving plants, time and money. Email and text alarms can also be configured and sent from within the software, allowing users to be notified almost anywhere.

The Element HT can be used as a single, wireless data logging system, or it can be expanded to a large scale system, which can include hundreds of data loggers measuring a number of areas (additional MadgeTech wireless data loggers and transceivers may be required). The Element HT utilizes the latest MadgeTech Software, version 4.1. MadgeTech Data Logger Software is a powerful, analytic tool. Data can be viewed in graphical or tabular formats and summary and statistics views are available for further analysis. The software features export to Excel®, data annotation, digital calibration and more.



# Element HT Specifications

## TEMPERATURE

### Internal Channel

Temperature Range: -20 °C to +60 °C (-4 °F to +140 °F)  
Temperature Resolution: 0.01 °C (0.02 °F)  
Calibrated Accuracy: ±0.5 °C/± 0.9 °F (0 °C to +55 °C/32 °F to 131 °F)  
Response Time: 10 minutes free air

## HUMIDITY

Humidity Range: 0 to 95 %RH  
Humidity Resolution: 0.1 %RH  
Humidity Calibrated Accuracy: ±3.0 %RH, ±2.0 %RH typical @ 25 °C (10 %RH to 90 %RH; 5 °C to 55 °C)  
Response Time: 2 minutes to 63% of change

## GENERAL

**Reading Rate:** 1 reading every second up to 1 reading every 24 hours

**Memory:** 16,128 readings per channel

### LED Functionality:

- Green LED blinks every 5 seconds to indicate unit is logging
- Blue LED blinks every 15 seconds to indicate unit is in wireless mode
- Red LED blinks every 1 second to indicate alarm condition

**Memory Wrap Around:** Yes

**Start Modes:** Immediate Start

**Battery Type:** Ultralife 9V Lithium included; user replaceable

**Battery Life:** Approximately 3 years typical at 1 minute reading rate

**Approvals:** US (FCC), CA (IC), CE, South Korea (KCC), China (CMIIT), Japan (LCIE)

**Time Accuracy:** ±1 minute/month

### Computer Interface:

USB to mini USB, 250,000 baud for standalone operation or RFC1000/RFC1000-CE/RFC1000-IP69K required for wireless operation

**Operating System Compatibility:** XP SP3/Vista/Windows 7/Windows 8

## Made in the USA

### Software Compatibility:

- Standard Software version 4.2.1.1 or later
- Secure Software version 4.2.0.1 or later

### Operating Environment:

- 20 °C to +60 °C (-4 °F to +140 °F) 0 %RH to 95 %RH non-condensing

### Dimensions:

- Data logger: 3.0 in x 3.5 in x 0.95 in (76.2 mm x 88.9 mm x 24.1 mm)
- Sensor: 1.98 in x 1.98 in x 1.15 in (50.3 mm x 50.3 mm x 29.2 mm)
- Cable Length: 16 ft (192 in)

Weight: 140 g (4.9 oz)

**Enclosure Material:** ABS Plastic

**Alarm:** Programmable high and low limits for temperature and humidity. Alarm is activated when temperature or humidity reaches or exceeds set limits.

**Alarm Delay:** A cumulative alarm delay may be set in which the device will activate the alarm (via LED) only when the device has recorded a user specified time duration of data.

**Audible Alarm Functionality:** 1 Beep per second for reading alarm above/below threshold

## WIRELESS

**RF Frequency:** 2.45 GHz IEEE 802.15.4 ultra-low power wireless transceiver with fully bi-directional communication

**Band:** ISM band 2.405-2.475 GHz

**Maximum Output Power:** +0 dBm typical

**Receiver Sensitivity (RFC1000):** -95 dBm typical

**Transmission Distance:** (to data loggers)

- RFC1000, RFC1000-CE & RFC1000-IP69K  
2,000 ft max. outdoors - line of sight unobstructed  
500 ft max. indoors - typical urban environment

**Transmission Distance (to other RFC1000's):**

- RFC1000  
4,000 ft max. outdoors - line of sight unobstructed  
1,000 ft max. indoors - typical urban environment
- RFC1000-CE  
2,500 ft max. outdoors - line of sight unobstructed  
700 ft max. indoors - typical urban environment
- RFC1000-IP69K  
4,000 ft max. outdoors - line of sight unobstructed  
1,000 ft max. indoors - typical urban environment

**BATTERY WARNING:** Battery may leak, flame or explode if disassembled, shorted, charged, connected together, mixed with used or other batteries, exposed to fire or high temperature. Discard used battery promptly. Keep out of reach of children.

## Ordering Information

MODEL NUMBER	DESCRIPTION
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Element HT:	Wireless Temperature and Humidity data logger with LCD
RFC1000:	Wireless RF transceiver/repeater. USB to mini USB adapter & power supply included.
RFC1000-CE:	Wireless RF transceiver/repeater, CE approved for Europe. USB to mini USB adapter & power supply included.
RFC1000-IP69K:	Wireless RF transceiver/repeater, splash proof with an IP69K rating. USB to mini USB adapter included.