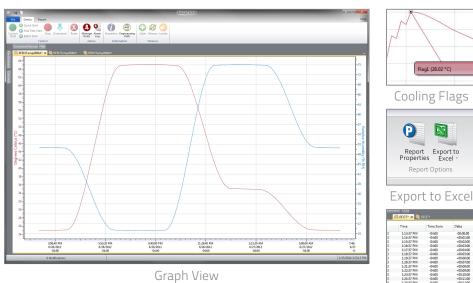# MADGETECH
WE BUILD DATA LOGGERS

Element HT
Wireless Humidity & Temperature Data Logger

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.

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 is compatible with the latest MadgeTech 4 Software.

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

MadgeTech 4 Software Features

Graph View

Cooling Flags

Export to Excel

Tabular Data View

Automation

- 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
- Summary view

SPECIFICATIONS

Specifications are subject to change without notice. Specific warranty remedy limitations apply. Call (603) 456-2011 or go to **madgetech.com** for details.

TEMPERATURE

Internal Channel Temperature Range	-20 °C to +60 °C (-4 °F to +140 °F)
Resolution	0.01 °C (0.018 °F)
Calibrated Accuracy	±0.50 °C/± 0.9 °F (0 °C to +55 °C/+32 °F to +131 °F)
Response Time	t63 - 302 seconds to 63% of change t90 - 710 seconds to 90% of change

HUMIDITY

Humidity Range	0 %RH to 95 %RH
Resolution	0.1 %RH
Calibrated Accuracy	±3.0 %RH 25 %RH to 75 %RH +20 °C to +40 °C Hysteresis Error 1 % typical, 3 % Maximum
Response Time	t90 - 120 seconds to 90% of change

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

GENERAL

Reading Rate	1 reading every second up to 1 reading every 24 hours
Memory	16,128 readings
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
Wrap Around	Yes
Start Modes	Immediate and delay start
Calibration	Digital calibration through software
Calibration Date	Automatically recorded within device
Battery Type	9 V lithium or alkaline battery included; user replaceable with any 9 V battery
Battery Life	3 years typical at 1 minute reading rate
Data Format	**For Display:** °C or °F, %RH **For Software:** Date and time stamped °C, K, °F, or °R, %RH, mg/mL, Dew Point - °C/K/°F/°R
Time Accuracy	± 1 minute/month
Computer Interface	USB to mini USB, 250,000 baud for standalone operation or RFC1000 required for wireless operation
Operating System Compatibility	Windows XP SP3 or later
Software Compatibility	Standard Software version 4.1.0.0 or later Secure Software version 4.1.3.0 or later
Operating Environment	-20 °C to +60 °C (-4 °F to +140 °F), 0 %RH to 95 %RH non-condensing
Dimensions	3.0 in x 3.5 in x 0.95 in (76.2 mm x 88.9 mm x 24.1 mm) Data logger only
Material	ABS Plastic
Weight	4.4 oz (125 g)
Approvals	US (FCC), CA (IC), CE, South Korea (KCC), China (CMIIT), Japan (LCIE)
Alarm	User configurable high and low audible, on-screen, email and text (SMS) alarms. 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

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

Element HT	PN 901423-A7	Wireless Temperature and Humidity data logger
RFC1000	PN 901383-00	Wireless RF receiver/repeater. USB to mini USB adapter & power supply included
RFC1000-CE	PN 901388-00	Wireless RF transceiver/repeater, CE approved for Europe. USB to mini USB adapter & power supply included
RFC1000-IP69K	PN 901389-00	Wireless RF transceiver/repeater, splash proof with an IP69K rating. USB to mini USB adapter included
RFC1000 Cloud Relay	PN 901900-00	MadgeTech Cloud Services Data Logging Hub
RFC1000-CE Cloud Relay	PN 901901-00	MadgeTech Cloud Services Data Logging Hub, CE approved for Europe
U9VL-J	PN 901804-00	Replacement battery for Element HT

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