

DATA LOGGING SOLUTIONS AEROSPACE INDUSTRY



The MadgeTech Advantage

Ensure safety, quality and efficiency by measuring and recording crucial data for inconsistencies that directly impact the success of a business. Our customizable data logging solutions provide real-time monitoring for applications where the slightest change in environment could be destructive. Coupled with the accuracy and reliability of our products, we also offer free software and cloud services, making compliance and validation reporting a breeze.

Why Choose MadgeTech?

At MadgeTech we take pride in maintaining meaningful relationships with our customers, going above and beyond to turn their everyday problems into new data logging solutions. To ensure the instrument's accuracy, MadgeTech offers in-house standard and customized calibration services, including ISO/IEC 17025 accredited calibrations for certain products.

Benefits:

- ▲ Calibration
- ▲ ISO/IEC 17025 Accreditation
- ▲ IQ/OQ/PQ On-Site Services
- ▲ Free Technical Support
- ▲ Free Software
- ▲ Cloud Services
- ▲ 21 CFR Part 11 Compliance

MadgeTech data loggers are designed, manufactured and serviced in the USA and distributed worldwide.

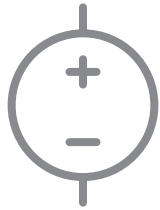


HEADQUARTERS
Warner, New Hampshire

Data Logging Solutions for Applications in the Aerospace Industry

MadgeTech's aerospace selection of data loggers provides monitoring solutions for a wide variety of parameters for use in a multitude of different applications. MadgeTech offers complete data logging solutions for parameters including shock, temperature, voltage, pressure and humidity enabling the user to accumulate a complete environmental profile.

These loggers can assist in ensuring aircraft component reliability during operation and storage, engine functionality, and vital parameters during aircraft testing and research studies.



Voltage Monitoring



High Temperature Monitoring



Temperature & Humidity Monitoring



Pressure Monitoring



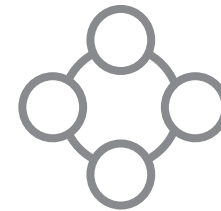
Shock & Vibration Monitoring



Intrinsic Safety

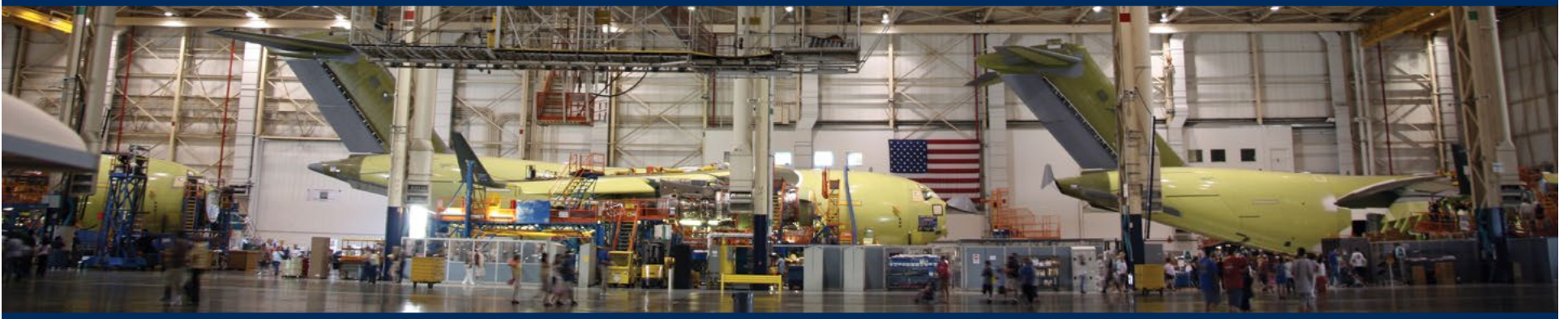


Wireless Monitoring System



All-In-One Monitoring

Voltage Monitoring



MadgeTech's series of voltage data loggers provide accurate monitoring and recording of low-level voltage from a variety of common sources frequently used for aerospace research, development and testing.

4-channel Low-Level Voltage Data Logger

The **VoltX4** is a 4-channel, battery powered, DC voltage data logger with a wall mounted universal power adapter. This device is available in three voltage ranges: 160mVDC, 3.2VDC, 32VDC.

- Available in 3 Measurement Ranges
- Memory Capacity of 349,000+ Readings
- Accepts Voltage Signals from Common Sources
- Also available in 8, 12 and 16 channels



Low-Level Voltage Data Loggers

The **Volt101A** is a compact, low-level DC voltage data logger. This device is available in four ranges: 2.5VDC, 15VDC, 30VDC and ± 160 mVDC.

- Compact Size
- 10-Year Battery Life
- 3 Measurement Ranges



High Temperature Monitoring



MadgeTech has designed the HiTemp140 series of data loggers specifically for monitoring high temperature applications. These rugged, high precision, fully-submersible devices can be placed directly inside the harsh environments, providing an overall temperature profile.

High Temperature Data Loggers

The **HiTemp140** and **HiTemp140-PT** series data loggers are MadgeTech's solution for precise high temperature monitoring. These data loggers can indefinitely withstand temperatures of up to 140 °C (284 °F).

- Submersible
- Available in Various Probe Lengths & Styles
- Measures Temperatures from -40 °C to 140 °C (-40 °F to +284 °F)

Flexible Probe High Temperature Data Logger

The **HiTemp140-FP** probe design is narrow and lightweight making it ideal for placement within small diameter or delicate applications.

- PFA Insulated Cable
- Available in 2 Probe Lengths
- Probe Measures Temperatures up to 260 °C (500 °F)



HiTemp140-TD-1

HiTemp140-2

HiTemp140-5.25

HiTemp140-7

HiTemp140-PT-1

HiTemp140-FP

Temperature and Humidity Monitoring

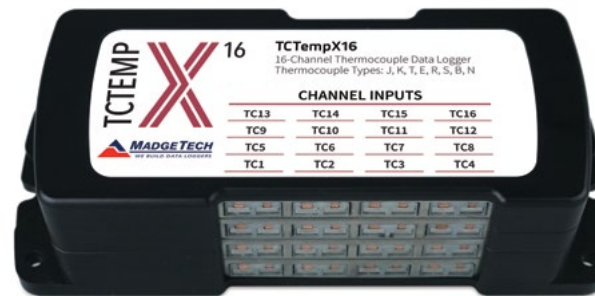


From research studies to engine performance monitoring, MadgeTech offers a variety of temperature and humidity data logging options.

16-Channel Temperature Data Logger

The **TCTempX16** is a 16-channel thermocouple-based temperature data logger with a reading rate of up to 4 Hz, ideal for a variety of applications, whether it is remote temperature monitoring or multiple points in a central location.

- Accepts a Variety of Thermocouples
- Memory Capacity of 131,000+ Readings
- Individual Cold Junction Compensation



Humidity and Temperature Data Logger

The **RHTemp101A** is a compact, humidity and ambient temperature data logger. This device can measure and record temperatures from -40 °C to 80 °C (-40 °F to +176 °F) and humidity from 0 %RH to 95 %RH.

- Compact Size
- 10-Year Battery Life
- Programmable Alarm Limits
- Precision RTD Sensing Element
- Memory Capacity of 1,032,192 Readings Per Channel



NASA using MadgeTech Data Loggers at Kennedy Space Center

In late 2012, seventeen RHTemp101A MadgeTech data loggers were strategically set up around NASA's Vehicle Assembly Building (VAB) located in the Kennedy Space Center in Florida with a goal of creating an accurate overview of the internal environment.

As the organization planned to alter the building to house a Space Launch System, as well as Multi-Purpose Crew Vehicles and commercial business, collecting precise data was extremely important. The loggers were set up to take readings every ten minutes continuously for one year to show any temperature differentials that could impact the launch of the spacecraft.

Pressure Monitoring



MadgeTech's series of pressure data loggers includes devices which can be used to monitor and record pressure in a variety of applications. These devices provide an easy and efficient way to monitor pressure by connecting directly to an NPT port.

Pressure and Temperature Data Logger

The **PR1000** is a rugged, stand-alone pressure and temperature data logger that accurately records data at user programmable reading rates, over long periods of time. The PR1000 can also monitor and record transient pressure through software configuration of user defined trigger thresholds and time periods.

- ¼ Inch NPT Fitting
- Submersible up to 60 PSI
- Available in 10 Measurement Ranges from 30 to 5000 PSI



Real-Time Pressure Data Logger

The **PR2000** is a pressure data logger with an LCD and wall mounted universal power adapter. Available in 10 ranges from 30 to 5000 PSI, the PR2000 can adapt to any application.

- Digital Display
- ¼ Inch NPT Fitting
- Memory Capacity of 262,000+ Readings



Shock and Vibration Monitoring



The monitoring of shock and vibration for all types of aircraft is essential to the safety of the vehicle, cargo and its components. Valuable parts and equipment can be damaged if exposed to excessive amounts of vibration. When damage is suffered, it can be difficult to determine when the impact or vibration occurred and the level of shock that was experienced. Using a MadgeTech shock or vibration data logger, data can be gathered to correlate outside factors to create a full picture and identify sources of destruction.

Tri-Axial Shock, Temperature, Humidity and Pressure Data Logger

The **UltraShock** is a tri-axial, stand-alone, compact shock data logger with three built-in acceleration ranges. It also can record temperature, humidity and pressure.

- Three built-in acceleration ranges: ± 15 g, ± 100 g and ± 300
- >4M readings of non-volatile memory
- 1 kHz sampling rate
- Rechargeable battery with three-month battery life
- Direct USB interface connection



Tri-Axial Shock Data Logger

The **Shock300** is a tri-axial, stand-alone, compact shock data logger with three built-in acceleration ranges.

- Three built-in acceleration ranges: ± 15 g, ± 100 g and ± 300
- >4M readings of non-volatile memory
- 1 kHz sampling rate
- Rechargeable battery with three-month battery life
- Direct USB interface connection



Intrinsic Safety



MadgeTech's Ex line of data loggers are designed to be intrinsically safe for use in hazardous locations, carrying ATEX and IECEx certifications. These data loggers ensure the safety of products being used in explosive environments.

Intrinsically Safe Humidity and Temperature Data Logger

The **RHTemp1000Ex** is a compact, humidity and temperature data logger that carries hazardous location and intrinsically safe global certification (ATEX and IECEx).

- 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



Intrinsically Safe Temperature Data Logger

The **Temp1000Ex** temperature data logger carries hazardous location and intrinsically safe global certification (ATEX and IECEx). Includes ISO 17025 accredited calibration certificate.

- 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



📶 Wireless Continuous Process Monitoring



For real-time continuous monitoring, MadgeTech's wireless 2000A series is a time-saving and cost effective solution for validating temperature, humidity, pressure levels and more.

Wireless Data Loggers

The **RFTemp2000A** and **RFRHTemp2000A** are designed to provide continuous ambient temperature and humidity monitoring. The devices take readings at user-specified intervals, with data being transmitted back to a central PC or to the MadgeTech Cloud for real-time data access remotely. The built in LCD display also provides users quick access to min, max, average, and current readings.

The 2000A series also includes a programmable audible alert and visual alarms for users close by. If the temperature or humidity levels exceed the user defined safe range, the alarm will sound enabling the user to take immediate action. Additionally, email and text message notifications can be configured, ensuring real-time notifications regardless of location.

Available Parameters

- Temperature
- Humidity
- Pressure
- Current
- Voltage
- Pulse
- Carbon Dioxide



RFTemp2000A
Wireless Temperature
Data Logger



RFRHTemp2000A
Wireless Temperature and
Humidity Data Logger

All-In-One Monitoring



When one parameter isn't enough, MadgeTech offers the Titan S8 complete with eight channels and capable of monitoring four separate parameters at once. This all in one device gives complete flexibility for use across all manufacturing.

Portable Data Acquisition Logger

The **Titan S8** is an 8-channel, remote access data acquisition logger with a full-color, 5 inch touchscreen interface for real-time monitoring.

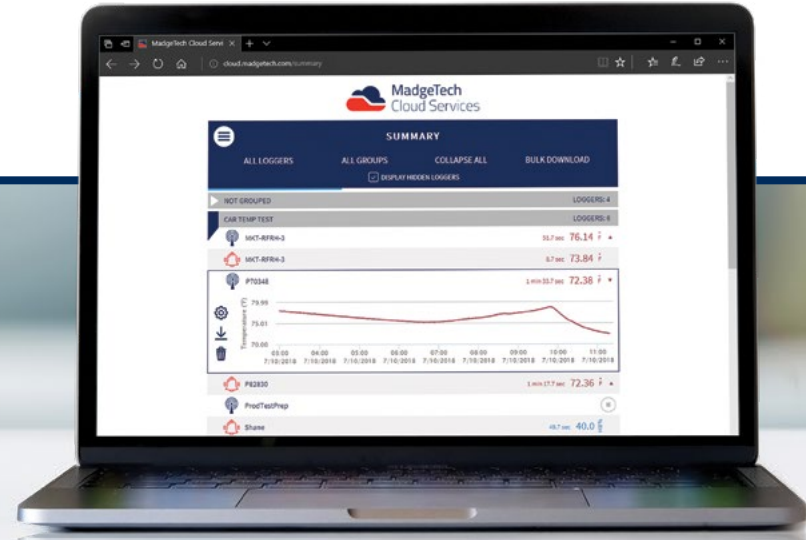
- Wi-Fi and Ethernet Enabled
- Large Touchscreen Control
- Independent Channel Configuration
- Directly Accepts Thermocouple, RTD and Thermistor Probes
- Programmable Inputs





MadgeTech Cloud Services

Access Data Instantly and Securely
from Anywhere in the World



The **MadgeTech Cloud** is compatible with all MadgeTech wireless data loggers, providing users with instant access to real-time data from any location. With the MadgeTech Cloud, data loggers can securely transmit data to be viewed on any Internet enabled device such as a computer, tablet or smartphone.

Scalable Solution

The MadgeTech Cloud is designed to support organizations of any size. From a single data logger to a network consisting of hundreds of loggers, the MadgeTech Cloud provides facilities with on-demand data supervision, attainable results, and flexibility like never before. The MadgeTech Cloud gives users the power to have control of all their critical data right in the palm of their hand.

Cloud Capabilities

All wireless MadgeTech data loggers can transmit data to the MadgeTech Cloud to be saved, viewed and controlled. The data is available for viewing from any Internet enabled device anywhere in the world. Equipped with many features, the MadgeTech Cloud is flexible enough to adapt to any data logging needs.

New Logger Groups

Assembling data loggers is easier than ever thanks to the MadgeTech Cloud's Logger Groups. Users have the ability to organize data loggers into groups and subgroups, making all data easily accessible from one central location.

Email & Text Message Alerts

The MadgeTech Cloud allows users to configure alarms to alert for no readings, channel thresholds or battery level. When an alarm is triggered, text message or email notifications are instantly sent, giving users the ability to view the data and assess the situation immediately.



Quick and
Easy Setup



View Data
From Anywhere



Access Data
Instantly



Email and Text
Notifications

MadgeTech 4 Software



The simple, easy-to-use, Windows-based software enables the user to effortlessly collect, display and analyze data. A variety of powerful tools can be used to examine, export, and print professional quality reports with just a click of the mouse. This software can be downloaded for free from the MadgeTech website.

MadgeTech 4 Software Customizable Features and Options

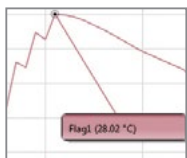
MadgeTech 4 Software can communicate with multiple loggers through multiple interface cables. Capable of simultaneous start, stop and download of over 100 devices, this software serves as your virtual command center for large scale facilities and small. Display your data in graphs, with tabbed views and multi-monitor support. Utilize the infinite graphing flexibility by combining channels and datasets as desired. All graphing makes use of accelerated graphics hardware for real-time updating and high performance visuals.

MadgeTech 4 Software is designed with a built-in database for automatic storage of downloaded data. The look and feel is organized much like standard email programs to aid in user friendliness and ease of use. MadgeTech 4 Software also offers extensive alarming options across multiple devices, wireless and non-wireless. Alarm output options include email, on-screen, text message and run-a-program alerts.

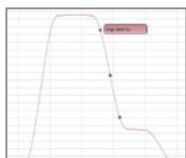
MadgeTech 4 Software has a powerful and comprehensive statistics system that allows the user to customize and view statistics as desired. Another feature is customizable engineering units. This enables users to support and program devices with many different unit types as well as the ability to display them as an alternate unit if desired.

Software Features

- Multiple Graph Overlay
- Statistics
- Digital Calibration
- Zoom In / Zoom Out
- Cooling Flags
- Lethality Equations (F0, PU)
- Mean Kinetic Temperature
- Full Time Zone Support
- Data Annotation
- User Friendly File Management
- Min. / Max. / Average Lines
- Timeslice
- Data Table View
- Automatic Report Generation
- Summary View
- Workflows / Automation



Cooling Flags



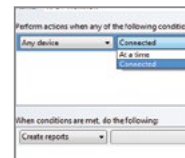
Graph View

Time	Time Zone	Data
1:13:27 PM	-08:00	-0000.00
1:14:27 PM	-08:00	-0000.00
1:15:27 PM	-08:00	-0000.00
1:16:27 PM	-08:00	-0000.00
1:17:27 PM	-08:00	-0000.00
1:18:27 PM	-08:00	-0000.00
1:19:27 PM	-08:00	-0000.00
1:20:27 PM	-08:00	-0000.00
1:21:27 PM	-08:00	-0000.00
1:22:27 PM	-08:00	-0000.00
1:23:27 PM	-08:00	-0000.00
1:24:27 PM	-08:00	-0000.00
1:25:27 PM	-08:00	-0000.00
1:26:27 PM	-08:00	-0000.00
1:27:27 PM	-08:00	-0000.00
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1:29:27 PM	-08:00	-0000.00
1:30:27 PM	-08:00	-0000.00

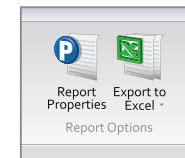
Tabular Data View



Alarm Notifications



Automation



Export to Excel