

CD330

NOVEMBER 2018

DICKSON

Environmental Monitoring + Compliance Experts



SET IN STONE

TIPS FOR ARCHIVAL
MUSEUM STORAGE

NEW ADDITIONS TO DICKSON

MEET OUR NEW
SERVICE EXPERTS

TAKING FLIGHT

A PROACTIVE APPROACH TO THE
PERILS OF AIR FREIGHT SHIPPING

FEATURED: CLOUD-ENABLED DATA LOGGER • PAGE 18



November 2018

LETTER FROM THE EDITOR

X Marks the Spot

History's Documented Treasures Need Strict Conditions to Survive

Harrison Ford has always been one of my favorite actors, and I've always been a huge fan of his portrayal of Indiana Jones. In each of the films, the character was seen navigating dangerous, complex traps in order to claim, or sometimes rescue, famous treasures that had been lost to time.

Something you never see Indiana rescue, though, is any type of written paper document. Why? Well, without perfectly maintained conditions, written documents will age, yellow, and dissolve. It's why historical documents like the Declaration of Independence, during the years that the Declaration was exhibited in the Patent Office, saw the effects of aging thanks to sunlight, fluctuating temperature, and relative humidity. Without strict environmental monitoring, the declaration, like many products you may produce, would end up lost to time.

In the pages that follow, you'll be able to read more about topics like this in order to help you keep your assets safe and your bottom line protected.

Thanks for reading, and I hope you enjoy our November issue.

Jenn Renoe
EDITOR-IN-CHIEF



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Life Isn't One Size Fits All. Your System Shouldn't Be Either.

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ABOUT US

Since 1923, Dickson has been changing the way organizations monitor their environments. By incorporating the best and newest innovations, Dickson enables organizations to manage compliance, asset protection, data analysis, and product quality with confidence. Today, Dickson provides validated solutions and services for over 80% of Fortune 100 companies in highly-regulated industries including healthcare, medical device, pharmaceutical, food, aerospace, and more. With the trust of over 80,000 customers worldwide, Dickson helps to protect billions of dollars worth of assets and remains the industry leader.

DICKSON

YOUR SERVICE EXPERTS



MAPPING



CALIBRATION



VALIDATION



INSTALLATION

In most regulated industries, monitoring systems are not the only thing necessary for compliance. Turn to our team of experts for your compliance needs.

SERVICES BY DICKSON

WE'RE EXPERTS IN MORE THAN MONITORING

Dickson's devices have been monitoring temperature for almost a century. Now you can leverage that experience and our knowledgeable team of experts to help manage your compliance process from start to finish.

Our experts are here for you.



630.543.3747



support@dicksondata.com

MEET OUR DIRECTOR OF SERVICES

Antoine Nguyen
Director of Services



Before coming to Dickson, Antoine spent more than 18 years in validation with companies that answer to FDA audit. With Antoine and his team at the helm, you can feel confident that your job is well cared for.

MAPPING

ARE YOUR PRODUCTS STORED

Mapping the differences and changes in temperature within a three-dimensional space can be a daunting task, but the data is invaluable. Let us help keep your business fully compliant by documenting temperature distribution and provide you with the rationale for permanent monitoring placement to protect your temperature-sensitive products.

VALIDATION

ARE YOUR SYSTEMS AS INTENTED

Our team of compliance experts will help you meet your validation needs from start to finish. We'll test every aspect, ensure no detail is overlooked, and document the proper working order of your equipment or software system. With their expertise, you'll have documentation in hand that stands up to audits.

PRODUCTS AND SAFELY?



WAREHOUSE MAPPING

Temperature and humidity can impact materials in your warehouse. Locating the hot and cold spots now can mean less spoiled product and fewer failed audits later.



COLD STORAGE MAPPING

Every refrigerator and freezer has its own nuances. Is the temperature distribution even? A successful mapping will ensure your storage systems adhere to safety standards.



CHAMBER MAPPING

Are your chambers' conditions equal on the top and bottom shelves? Understanding the exact environmental conditions of any chamber is critical to ensure repetition and accuracy.

MS OPERATING ENDED?

IQ

INSTALLATION QUALIFICATION

Let us verify your equipment has been properly installed and that it is ready to work per your specifications. Once that's in place we will work to establish a baseline for the equipment.

OQ

OPERATIONAL QUALIFICATION

We will confirm your equipment is operating appropriately within its outlined specifications. You will also receive verification that your system meets claims from all parameters.

PQ

PERFORMANCE QUALIFICATION

Dickson takes the time to authenticate your equipment is performing correctly and within specification. You can count on Dickson to verify that it is meeting your intended use.

CALIBRATION

WHICH CALIBRATION DO YOUR AUDITORS REQUIRE?

Using Dickson's ISO 17025 A2LA accredited calibration laboratory is the best way to ensure that your Dickson instrument is calibrated properly. With over 90 years of experience, we have SOP's in place to ensure that each unit is calibrated to a precise and accurate specification.

1-POINT NIST

- One specific temperature and/or humidity point (middle) calibration
- Good if your temperature or humidity varies little
- Specify the temperature and/or humidity point to best reflect your application

OR

3-POINT NIST

- Three-point (high, middle, and low) temperature and/or humidity calibration
- Provides a larger proof of accuracy
- Specify the temperature and/or humidity points to best reflect your application

INSTALLATION

HOW DO YOU IMPLEMENT NEW SYSTEMS?

Let us give you your time back by installing your loggers wherever, whenever. Once everything is up and running, we will test the devices to ensure they are working as intended.



SELF

Install DicksonOne units on your own.

By following along with our installation guide, it should take just a few minutes to set up each device in your system.



HYBRID

Let us help you with some of the heavy lifting.

Your team installs the units and we help manage the software's implementation, including alarms, locations, permissions, and more.



TURNKEY

Sit back and we'll take care of everything.

We install the devices and set up the software on your behalf, and you have the peace of mind in knowing it has all been done right.

Whether you're a seasoned professional or working with your first environmental monitoring system, Our team is ready to assist you every step of the way.

MEET OUR NEW SERVICE EXPERTS

BY RACHEL KELLETT

At Dickson, we pride ourselves on being the compliance experts, especially when it comes to our services. That is why we have added a few new members to our elite team. Take some time to get to know our new validation engineers.



Dustin Park Validation Engineer

Dustin attended the University of Illinois at Urbana-Champaign where he gained a Masters in Biomedical Engineering. He says, "My masters degree helps

me in being diligent and hard-working, and my past experiences also help as they gave me exposure to medical device companies."

When asked what drew him to Dickson, Dustin responded, "Dickson puts a focus on the end product being the best quality for customers and the culture of the company is definitely a plus!" As a diligent, self-motivated individual, he is most excited about the opportunity to learn and grow with many different exposures to pharmaceutical and medical device companies.

When Dustin is not on the job, he enjoys spending time with family and friends, Netflix binging, and rooting for the Lakers!



Adam Schuller Validation Engineer

Adam also attended the University of Illinois at Urbana-Champaign where he studied Chemical Engineering. He was drawn to Dickson because of the

opportunity it provides for growth and responsibility.

When asked about what he brings to Dickson he

responded, "I previously worked for a company that specializes in validation and packaging. My primary role was being an engineering consultant for pharmaceutical companies. I also gained special skills in technical writing."

Adam's favorite part about being a member of the services team is being able to travel to customer sites and provide quality service. He is most excited about traveling, meeting new teammates, and increasing his role responsibilities.

In his free time, Adam enjoys swimming, exercising, attending concerts, and petting his dog.



Isaac Gerke Validation Engineer

Isaac earned his degree in Biomedical Engineering at Marquette University. While this is Isaac's first service role, he is very excited to travel and have direct

interaction with customers.

He expressed his interest in Dickson by stating, "My last position was at a large healthcare company, which has a huge corporate environment. I had heard from many people that smaller companies like Dickson have a much closer community and everyone I talked to during the interview process seemed to really like the company culture. I also love the idea of getting to travel for on site customer visits as a part of the job."

Isaac was the Excel expert in his past position and did a lot of VBA coding to automate various tasks. He is hoping to do more coding at Dickson in order to innovate and improve some processes for the team.

Outside of engineering, Isaac spends time as an environmental artist for a popular computer game. He also makes time to maintain his saltwater reef aquarium. [D](#)

DicksonOne isn't just a monitoring system.

It's a spend-more-time-with-patients, avoid-audit-findings, and cover-your-assets system.



SIMPLE SCALABLE COMPLIANT

DicksonOne is a cloud-based environmental monitoring system featuring an easy-to-use interface for monitoring your critical variables, allowing you to remain compliant without taking up too much of your time. Plus with multiple alarm notification methods, you can ensure the right people are up-to-date on any excursion with time to act before something spoils.

Read on for more information on DicksonOne's 21 CFR Part 11 compliance, the system's intuitive interface, alarming, and more.

DicksonOne

✓ SIMPLE

DicksonOne touchscreens and data loggers collect temperature, humidity, and differential pressure data and automatically deliver it to the DicksonOne cloud application. No more downloading data or changing charts—DicksonOne does all the work for you.

- ✓ Easily navigate the system with DicksonOne's intuitive interface
- ✓ Use the dashboard page to view all loggers by location at-a-glance
- ✓ View trend graph and data summary with just one click
- ✓ Set up recurring reports, delivered how and when you want them
- ✓ Access your data 24/7 from any internet-connected device

✓ SCALABLE

DicksonOne is for monitoring systems of any size. Whether you're monitoring a single fridge or chambers around the world, all of your data ends up in a single, online platform.

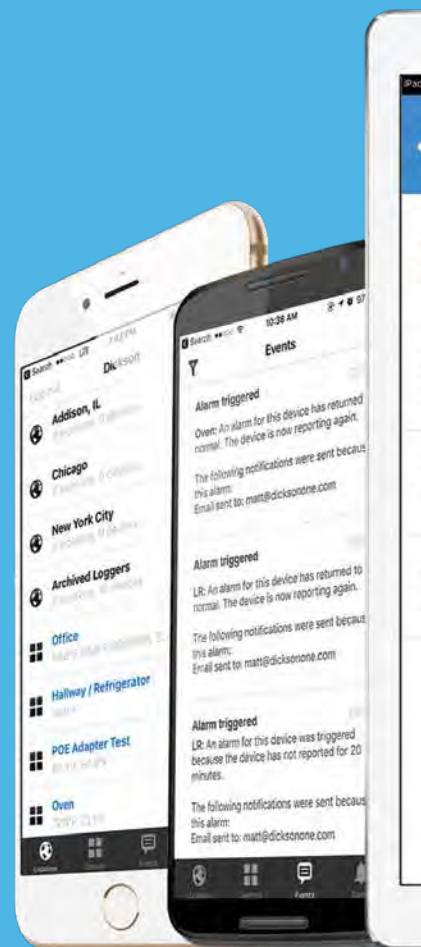
- ✓ No limit on adding unique user names and passwords
- ✓ Apply alarm conditions and notifications to multiple devices and channels at once with alarm templates
- ✓ Conveniently create, edit, and manage alarm notifications and recipients for all locations in one place with escalation policies

✓ COMPLIANT

In highly compliant environments that are heavily regulated, there are a lot of boxes you need to check to ensure you're ready for an audit. Here are a few of the boxes our system checks:

- ✓ 21 CFR Part 11 compliance
- ✓ Secure transmission of data and unlimited data storage
- ✓ NIST and A2LA (ISO 17025) accredited Calibration Lab
- ✓ VFC-approved system for monitoring vaccine refrigerators

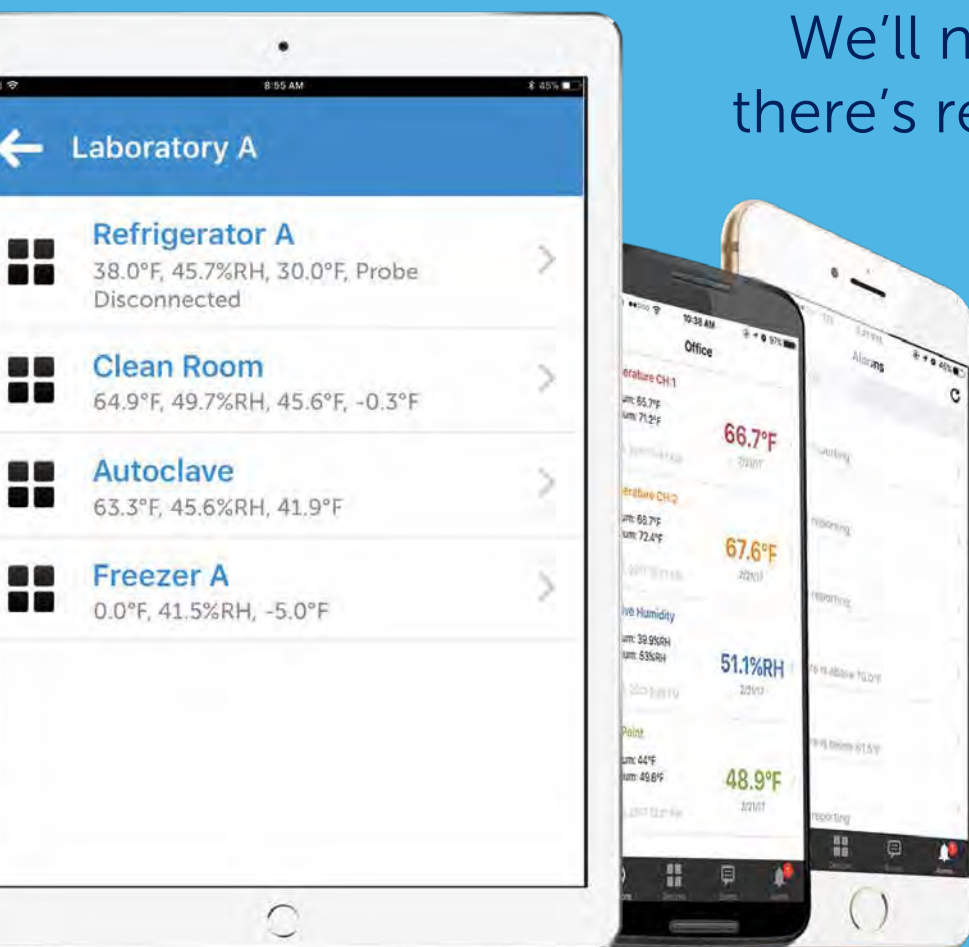
PEAK WITH REAL



COMPLIANT WITH CONFIDENCE

FACE OF MIND REAL-TIME NOTIFICATIONS

We'll notify you when there's reason to worry.



①

Choose **when** you'd like to be notified:

Set up alarms for high/low variable readings and receive notifications when devices aren't reporting or a probe has been disconnected.

②

Choose **how** you'd like to be notified:

Be notified via text, phone, email, or audible alarm whenever an alarm condition is met.

PLY DENCE

Knowing all of your company's nuances through cloud-based monitoring and data collection can give you the confidence you need for total compliance. **With DicksonOne's custom reporting feature, you'll get just that.**



DicksonOne TWP Touchscreen with POE

Dimensions: 8.5 x 1.75 x 7" | Display Dimensions: 8" Diagonal
Display Type: LCD Touchscreen

The Touchscreen

A capacitive 8" touchscreen offers our best user experience ever, and now features customizable views, alarms, and more. Plus, with DicksonOne compatibility, you get your data at your fingertips, and wherever else you might need it.

- ✓ Intuitive user-interface makes it easy to view and manage your data
- ✓ Automatically calculates and updates summary data for the selected time range
- ✓ Includes passcode protection for unit security

Replaceable Sensors™

With Dickson's patent pending Replaceable Sensors, you can recalibrate any DicksonOne device on the fly without having to send in your device. Just order a newly calibrated sensor, receive it in the mail, and plug it into the unit in a motion that's as simple as swapping batteries in your television remote.



Select the sensor that's right for your application:



Single or Dual K-Thermocouple Temperature Sensor



Platinum RTD Temperature Sensor



Single or Dual Temperature Thermistor Sensor with buffer solution



Differential Pressure Sensor



Ambient Temperature or Temperature & Humidity Sensor



Designed with
your needs in
mind.

	DWE	TWE	TWP
DICKSONONE ENABLED	✓	✓	✓
WIFI/ETHERNET	✓	✓	✓
REPLACEABLE SENSOR PORTS	1	2	2
RELAYS		Optional	Optional
PROXIES		✓	✓
VIEW HISTORICAL DATA AT THE POINT OF MONITORING		✓	✓
POWER OVER ETHERNET	w/ Adapter		✓
SCREEN SPECS	Segmented Display	8" LCD Touchscreen	8" LCD Touchscreen
BACKUP BATTERY	1 Week	70 Hours	70 Hours
BACKUP STORAGE	400,000 Points	1,000,000 Points	1,000,000 Points

Yearly DicksonOne Subscription Plans

BASIC	STARTER	REGULAR	PLUS	ENTERPRISE
\$0	\$300	\$725	\$1,400	Call TODAY for a quote!
Unlimited devices. Data stored for 30 days. One-hour sample interval.	1-10 devices. Data stored for life of account. Multiple sample rates. Email, phone, & text alerts. API access.	11-25 devices. Data stored for life of account. Multiple sample rates. Email, phone, & text alerts. API access.	26-50 devices. Data stored for life of account. Multiple sample rates. Email, phone, & text alerts. API access.	51+ devices. Data stored for life of account. Multiple sample rates. Email, phone, & text alerts. API access.

INTERESTED IN A
MONTHLY PLAN?



Enjoy the flexibility of a monthly plan
with prorated devices and the ability
to add devices when you're ready.



\$3 PER DEVICE
(Per device, per month.
Credit card required)

SET IN STONE

TIPS FOR MUSEUM ARCHIVAL STORAGE

BY DICKSON

Museum and archive storage is important. At Dickson, we don't make lasers to safeguard rare artifacts against the greatest thieves in the world. Instead, we make data loggers that measure and record temperature, humidity, and pressure. Not nearly as cool, but possibly more important.

In the mainstream movie, *National Treasure*, star Nicholas Cage succeeds in stealing the Declaration of Independence. This historic document is currently housed in a bulletproof case, which is both temperature-controlled and filled with argon gas to guard against decomposition. Next time you are in someone's basement or attic, take a look and see if you can find any old paperback books lying around. The pages are yellow, right? This happens to paper over time, specifically if it is stored in an unstable environment.

While the Declaration of Independence, United States Constitution, Magna Carta, and the Mona Lisa are extreme cases of document preservation, there are countless museums and archives around the world housing documents that they want to preserve for longer than 20 years.

The key to achieving this is temperature and humidity control. Those two things, above all else, will help shape a rare documents' life in a museum or archive. The Library of Congress offers this advice, "Good storage significantly prolongs the preservation of paper materials and includes a cool (about 70° or below), relatively dry (about 35% relative humidity), clean and stable environment (avoid attics, basements, and other locations with his risk of leaks and environmental extremes)."

That is where data loggers come in. Data loggers, temperature sensors, and temperature alarms help museums and archives across the world store their documents safely. When a traveling art exhibition moves from one museum to the next, the owners of that art want to be sure that it is kept out of environmental extremes. Data loggers allow the hosting museums to prove to the owners that their works of art were kept at safe temperatures and humidity.

In case of emergency, data loggers are your cheapest insurance policy. When a heater or air conditioning unit fails, wireless data loggers can send you text, email, and phone call alerts as soon as the environment your documents are in is above or below a certain threshold.

So now that you know the importance of archival and museum monitoring, it is time to find the perfect monitoring system. Here are some questions to consider.

What is your budget? Figure out how much you have to spend, as it will inform your every decision the rest of the way. Even if you are on a tight budget, you still have options.

What are you storing, and where are you storing it? Documents, sculptures, furniture, mummies, dinosaurs? If you are in an archive, you may be storing brittle old documents in a large facility that only you and your coworkers are allowed in. If you are an art gallery, you may have nothing in storage, instead everything may be in plain sight of anyone who walks through your door. Also, for all you museums and art galleries, here is something to think about: do you have temporary or visiting exhibits? Many times, these will require additional temperature and RH monitoring.

Do you already have a validated, sophisticated, temperature and humidity control system in your facility? For some, adding temperature and RH monitors will serve as backup devices for your already amazing HVAC control system (we are looking at you, Smithsonian). For others, no control other than a thermostat in the reading room exists. Many of you may be somewhere in the middle. Figure out what your current capabilities are, and then think of how you can assuage those vulnerabilities with further temperature and humidity monitoring.

What kind of documentation do you need? What kind of documentation do you want? Are you required by your governing agency, grantee, city department, or some other auditing body to guard against deterioration? Do you have to validate anything? Museums usually get a lot more leeway in this regard, in respect to other industries that are required to monitor their environment. The second question is more relevant: what kind of documentation do you want? What do you want to know about the temperature and humidity of your environment? Which leads into our next question...

What kind of analysis would you like to do? As the concluding question, we feel it wraps things up nicely. What do you want to get out of temperature monitoring? Why do it in the first place? What kind of information do you want to attain, analyze, and then re-attain?

With this knowledge, you will be able to accurately and successfully monitor and preserve important museum artifacts. American novelist James A. Baldwin once said, "People are trapped in history and history is trapped in them," which is even more reason to keep archived history preserved for many years to come. **D**

WHEN THE PRESSURE IS ON, **WE'VE GOT YOUR BACK.**

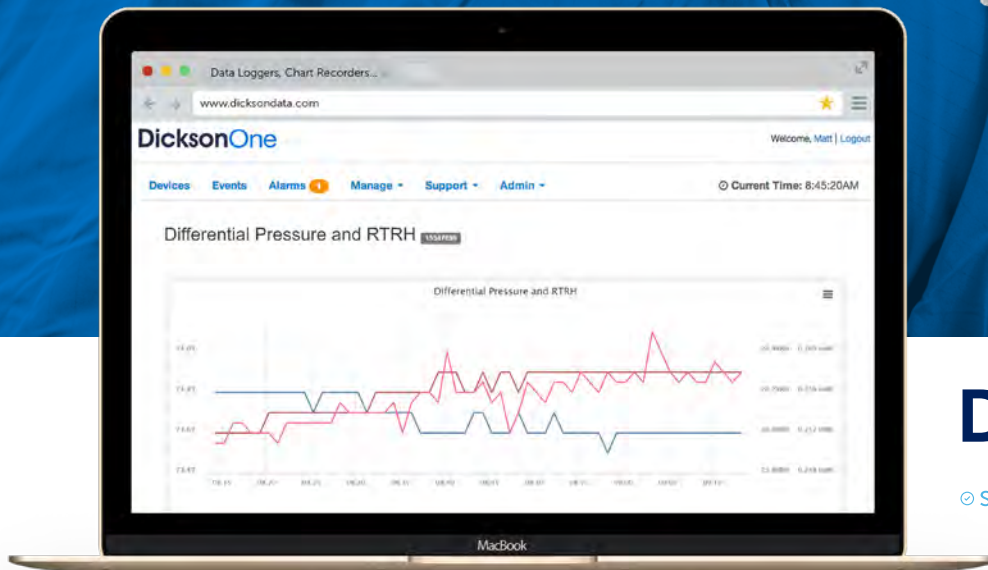
We understand how pressure impacts your critical spaces and the importance of stringent monitoring, which is why we now offer differential pressure sensors for DicksonOne.

Receive alerts via text, call, or email to know when your pressure is out of control.

NEW!



Turn to page 21 for more information on the new differential pressure sensors.



DicksonOne
BY DICKSON

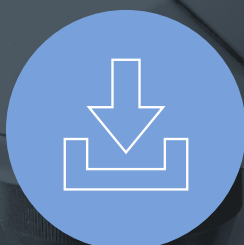
© SIMPLE © SCALABLE © COMPLIANT

DICKSON

PRODUCT INNOVATORS



**DICKSONONE
DEVICES**



**DATA
LOGGERS**



**REPLACEABLE
SENSORS™**



**CHART
RECORDERS**

Since 1923, we've strived to incorporate the best and newest technologies into our products to bring you monitoring solutions of the highest caliber. We maintain the world's widest selection of top quality instruments customized to fit your monitoring needs. From chart recorders to the new DicksonOne, we are constantly creating, which has made us an industry leader in environmental monitoring.

PRODUCTS BY DICKSON



DICKSONONE TOUCHSCREEN

A capacitive 8" touchscreen offers our best user experience ever and now features customizable views, alarms, and more. Plus, with the option for DicksonOne compatibility, you get your data at your fingertips and wherever else you might need it.

TWE WiFi/Ethernet Connection STARTING AT \$524

TWP Power Over Ethernet STARTING AT \$599

Ambient Operating Temperature Conditions: 32°F to 140°F (-0°C to 60°C)

Battery Backup: 70 Hours

Data Capacity: Approx 1,000,000 sample points (backup)

Dimensions: 8.5 x 1.75 x 7"

Display Dimensions: 8" Diagonal

Display Type: LCD Touchscreen

Sensor Type: Replaceable Sensor(s) *(sold separately)*

Download Type: WiFi/Ethernet

Alarm Type(s): Text, Email, Phone Call, Audio/Visual



TWE, TWP

DICKSONONE DATA LOGGER

The DicksonOne data logger collects temperature, humidity, and differential pressure data and automatically delivers it to the DicksonOne cloud application. From there, you can access your secure data from any internet-connected device, anywhere in the world. No more downloading data or changing charts—DicksonOne does all the work for you.

DWE WiFi/Ethernet Connection STARTING AT \$350

Ambient Operating Temperature Conditions: 32°F to 158°F (-0°C to 70°C)

Data Capacity: Approx 400,000 sample points (backup)

Dimensions: 1.7 x 4.25 x 4.25"

Display Type: Digital

Sensor Type: Replaceable Sensor(s) *(sold separately)*

Download Type: WiFi/Ethernet

Alarm Type(s): Text, Email, Phone Call, Audio/Visual



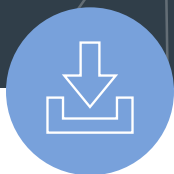
DWE



DicksonOne

21 CFR Part 11 Compliant. Scalable. Simple.

DicksonOne is a cloud-based environmental monitoring system featuring an easy-to-use interface for monitoring your critical variables, allowing you to remain compliant without taking up too much of your time. Plus, with multiple alarm notification methods, you can ensure the right people are up-to-date on any excursion with time to act before something spoils. For more information, turn to page 8 or visit DicksonData.com/DicksonOne.



DATA LOGGERS

TOUCHSCREEN Compatible with DicksonWare 2.0

TSB Touchscreen - USB STARTING AT \$424

Ambient Operating Temperature Conditions: 14°F to 140°F (-10°C to 60°C)
 Battery Backup: 70 Hours
 Data Capacity: Approx 1,000,000 sample points (backup)
 Dimensions: 8.5 x 1.75 x 7"
 Display Dimensions: 8" Diagonal
 Display Type: LCD Touchscreen
 Sensor Type: Replaceable Sensor(s) *(sold separately)*
 Alarm Type(s): Audio/Visual



TSB

DISPLAY Compatible with DicksonWare 2.0

SP425 Display Temperature Data Logger \$172

Range: -4°F to 158°F (-20°C to 70°C)
 Accuracy: $\pm 1.2^\circ\text{F}$ from -4°F to 158°F ($\pm 0.7^\circ\text{C}$ from -20°C to 70°C)

TP425 Display Temperature & Humidity Logger \$269

Range: -4°F to 158°F (-20°C to 70°C)
 Accuracy: $\pm 0.8^\circ\text{F}$ from 20°F to 120°F ($\pm 0.44^\circ\text{C}$ from -6°C to 48°C)
 Humidity: $\pm 2\%$ RH from 0 to 60%; $\pm 3\%$ RH from 60 to 95%



SP425



TP425

DSB Display Temperature & Humidity Logger STARTING AT \$309

Ambient Operating Temperature Conditions: 32°F to 158°F (-0°C to 70°C)
 Battery Type: 2 AA Batteries (AC Power Adapter sold separately)
 Battery Life: Approx 2 years
 Data Capacity: Approx 400,000 readings
 Sensor Type: Replaceable Sensor(s) *(sold separately)*
 Alarm Type(s): Audio/Visual



DSB

COMPACT Compatible with DicksonWare 2.0

SP125 Temperature Data Logger \$129

Range: -10°F to 176°F (-23°C to 80°C)
 Accuracy: $\pm 1.2^\circ\text{F}$ from -10°F to 176°F ($\pm 0.7^\circ\text{C}$ from -23°C to 80°C)

TP125 Temperature & Humidity Logger \$215

Range: -10°F to 176°F (-23°C to 80°C)
 Accuracy: $\pm 0.8^\circ\text{F}$ from 20°F to 120°F ($\pm 0.44^\circ\text{C}$ from -7°C to 49°C)
 Humidity: $\pm 2\%$ RH from 0 to 60%; $\pm 3\%$ RH from 60 to 95%

SK550 Compact Temperature Data Logger \$699

Coin-Sized Temperature Logger **Pack of 12**
 Range: -4°F to 158°F (-20°C to 70°C)
 Accuracy: $\pm 1.8^\circ\text{F}$ from -4°F to 158°F ($\pm 1^\circ\text{C}$ from -20°C to 70°C)

TK550 Compact Temperature & Humidity Logger \$999

Coin-Sized Temperature & Humidity Logger **Pack of 12**
 Range: -4°F to 158°F (-20°C to 70°C)
 Accuracy: $\pm 1.8^\circ\text{F}$ from -4°F to 158°F ($\pm 1^\circ\text{C}$ from -20°C to 70°C)
 Humidity: $\pm 2\%$ RH from 0 to 60%; $\pm 3\%$ RH from 60 to 95%



SP125



TK550



DATA LOGGERS

INDICATORS *No software required*

MM120 Vaccine Alarm Thermometer — \$53

1-Probe Vaccine Alarm Thermometer, Battery Powered
Temperature Range: -50°F to 122°F (-50°C to 50°C)
Accuracy: $\pm 1.8^\circ\text{F}$ from 0° to 122°F ($\pm 1^\circ\text{C}$ from -18°C to 50°C)

MM125 Vaccine Alarm Thermometer — \$64

2-Probe Vaccine Alarm Thermometer, Battery Powered
Temperature Range: -58°F to 122°F (-50 to 50°C)
Accuracy: $\pm 1.8^\circ\text{F}$ from 0° to 120°F ($\pm 1^\circ\text{C}$ from -18°C to 49°C)

D182 Infrared Thermometer — \$60

Non-Contact Infrared Thermometer, Lightweight, Easy-Grip, Battery Powered
Temperature Range: -58°F to 986°F (-50°C to 530°C)
Accuracy: $\pm 2\%$ of Reading or 2°C, Whichever is Greater

D186 Infrared Thermometer — \$149

Non-Contact Infrared Thermometer
Lightweight, Easy-Grip, Battery Powered.
Temperature Range: -67°F to 536°F (-55 to 280°C)
Accuracy: $\pm 1^\circ\text{F}$ from 32°F to 150°F ($\pm 0.6^\circ\text{C}$ from 0°C to 66°C)

TC700 Touchscreen Handheld Indicator — \$299

Instant Temperature Data, No-Slip Silicone Cover, Battery Powered
Temperature Range: -200°F to 1999°F (-128°C to 1093°C)
Accuracy: $\pm 1.8^\circ\text{F}$ from -22°F to 122°F ($\pm 1^\circ\text{C}$ from -30°C to 50°C)

TH700 Touchscreen Handheld Indicator — \$299

Instant Temperature/Humidity Data, No-Slip Silicone Cover, Battery Powered
Humidity Range: 0 to 95% RH (non-condensing)
Temperature Range: -40°F to 185°F, (-40°C to 85°C)
Accuracy: $\pm 0.8^\circ\text{F}$ from 20°F to 122°F ($\pm 0.45^\circ\text{C}$ from -6°C to 50°C)

HIGH TEMP *Compatible with DicksonWare 2.0*

HT300 Waterproof, High Temperature Data Logger — \$349

HACCP and FDA Compliant, USB Download, IP68 Rating
Temperature Range: -40°F to 257°F, -40°C to 125°C
Accuracy: $\pm 1.8^\circ\text{F}$ from -40°F to 257°F ($\pm 1^\circ\text{C}$ from -40°C to 125°C)

HT350 High Temperature Process Logger — \$349

HACCP Approved, K-Thermocouple Probe, USB Download
Temperature Range: -40°F to 257°F (-40 to 125°C)
Accuracy: $\pm 1.8^\circ\text{F}$ from -22°F to 122°F ($\pm 1^\circ\text{C}$ from -30°C to 50°C)



MM120



MM125



D182



D186



TC700



TH700



HT300



HT350



DICKSONWARE

Why go digital? That's easy.

DicksonWare allows you to store and share data easily with others in your organization by displaying downloaded data. For more information, visit DicksonData.com/Dicksonware.



PATENT PENDING

REPLACEABLE SENSORS™

REPLACEABLE SENSORS (PATENT PENDING)

Now, you have the option to calibrate the sensor as opposed to the unit. By splitting up the sensor from the data logger and chart recorder, we've created a plug-and-play device that will keep you in compliance and save you time and resources.

RKTC/RKTC2 Single/Dual K-Thermocouple Temperature Sensor — \$110

Temperature Range: -300°F to 2000°F (-184°C to 1093°C)
Accuracy: $\pm 1.8^\circ\text{F}$ from -22°F to 122°F ($\pm 1^\circ\text{C}$ from -30°C to 50°C)

RTHM/RTHM2 Single/Dual Glycol Thermistor Sensor — \$110

Temperature Range: -58°F to 158°F (-50°C to 70°C)
Accuracy: $\pm 0.9^\circ\text{F}$ from -58°F to 68°F ($\pm 0.5^\circ\text{C}$ from -58°C to 20°C)

RTRH Temperature and Humidity Sensor — \$110

Temperature Range: -40°F to 185°F (-40°C to 85°C)
Temperature Accuracy: $\pm 0.8^\circ\text{F}$ from 20°F to 120°F ($\pm 0.44^\circ\text{C}$ from -6°C to 48°C)
Humidity Accuracy: $\pm 2\%$ RH from 5.0 to 95% RH

RRTD Platinum Temperature Sensor — \$225

Cable Length: 6ft (182cm)
Temperature Range: -148°F to 350°F (-100°C to 176°C)
Accuracy: $\pm 0.5^\circ\text{F}$ from -148°F to 350°F ($\pm 0.3^\circ\text{C}$ from -100°C to 176°C)



DIFFERENTIAL PRESSURE

We've expanded our catalog to include differential pressure monitoring with a new sensor for DicksonOne. Get data delivered to DicksonOne with programmable alerts via text, call, or email to let you know when your pressure is out of control.

RS080 Differential Pressure Sensor (2") — \$149

Measurement Range: ± 2 inches H_2O
Accuracy: ± 0.06 inches H_2O

RS081 Differential Pressure Sensor (0.5") — \$149

Measurement Range: ± 0.5 inches H_2O
Accuracy: ± 0.015 inches H_2O



Note: Replaceable sensors for DSB and chart recorders have different part numbers



ZERO DOWN TIME

Take the old sensor off. Put the new sensor on. It's that simple.



COMPLIANT

Sensors come with your choice of NIST or A2LA calibration certificates.



COST-EFFECTIVE

Backup units are no longer needed. Pay for a sensor, not an extra device.



CHART RECORDERS

8" CHART RECORDERS

Temperature

- KT8P0** _____ **\$471**
8" (203mm) Temperature Chart Recorder with Replaceable Sensor and Battery Operation; Range Based on Chart
- KT8P2** _____ **\$528**
8" (203mm) Temperature Chart Recorder with Replaceable Sensor, AC Power (Battery Back-Up), and Display; Range Based on Chart
- KT8P3** _____ **\$642**
8" (203mm) Temperature Chart Recorder with Replaceable Sensor, AC Power (Battery Back-Up), Display, and Alarm; Range Based on Chart
- KT856** _____ **\$820**
8" (203mm) Temperature Chart Recorder with Replaceable Sensor, AC Power (Battery Back-Up), Display, Alarm, and Relays; Range Based on Chart

Temperature & Humidity

- TH8P0** _____ **\$550**
8" (203mm) High-Resolution Temperature & Humidity Chart Recorder with Battery Operation and Replaceable Sensor; 32°F to 122°F (0°C to 50°C)
- TH8P2** _____ **\$642**
8" (203mm) High-Resolution Temperature & Humidity Chart Recorder with Display and Replaceable Sensor; Range Based on Chart
- TH8P3** _____ **\$766**
8" (203mm) High-Resolution Temperature & Humidity Chart Recorder with Display, Alarm, and Replaceable Sensor; Range Based on Chart
- TH8P5** _____ **\$820**
8" (203mm) High-Resolution Temperature & Humidity Chart Recorder with Display, Alarm, Relays, and Replaceable Sensor; Range Based on Chart

Pressure

- PW860** _____ **\$706**
8" (203mm) Pressure Chart Recorder, 0-100 PSI, 7-Day
- PW861** _____ **\$706**
8" (203mm) Pressure Chart Recorder, 0-100 PSI, 24-Hr
- PW864** _____ **\$706**
8" (203mm) Pressure Chart Recorder, 0-200 PSI, 7-Day
- PW865** _____ **\$706**
8" (203mm) Pressure Chart Recorder, 0-200 PSI, 24-Hr
- PW866** _____ **\$706**
8" (203mm) Pressure Chart Recorder, 0-300 PSI, 7-Day
- PW867** _____ **\$706**
8" (203mm) Pressure Chart Recorder, 0-300 PSI, 24-Hr
- PW875** _____ **\$841**
8" (203mm) Pressure Chart Recorder, 0-1000 PSI, 24-Hr



KT8P2



TH8P3



PW860

CHARTS & PENS

Don't forget to reorder charts for your recorders before they run out, and always make sure to have extra pens on hand in case their ink runs dry. Visit DicksonData.com/charts or call 630.563.4218 to reorder today!

6" CHART RECORDERS

Temperature

- KT6P1\$415
- 6" (152mm) Temperature Chart Recorder with Replaceable Sensors; Range Based on Chart
- KT6P2\$528
- 6" (152mm) Temperature Chart Recorder with Probe, Display, and Replaceable Sensors; Range Based on Chart
- KT6P5\$674
- 6" (152mm) Temperature Chart Recorder with Probe, Display, Alarms, Relay, and Replaceable Sensors; Range Based on Chart

Temperature & Humidity

- TH6P1\$550
- 6" (152mm) Temperature & Humidity Chart Recorder with Replaceable Sensors, 32°F to 122°F (0°C to 50°C)
- TH6P2\$642
- 6" (152mm) Temperature & Humidity Chart Recorder with Probe, Display and Replaceable Sensors, 32°F to 122°F (0°C to 50°C)
- TH6P3\$766
- 6" (152mm) Temperature & Humidity Chart Recorder with Alarms, Probe, Display and Replaceable Sensors, 0°F to 122°F (0°C to 50°C)

4" CHART RECORDERS

Temperature

- SL4100\$269
- 4" (101mm) Portable, Battery Operated Temperature Chart Recorder with Display, 0°F to 100°F (-18°C to 37°C)
- SL4350\$269
- 4" (101mm) Portable, Battery Operated Temperature Chart Recorder with Display, -22°F to 122°F (-30°C to 50°C)

Pressure

- PW470\$507
- 4" (101mm) Pressure Chart Recorder, 0-100 PSI, 7-Day or 24-Hr
- PW474\$507
- 4" (101mm) Pressure Chart Recorder, 0-200 PSI, 7-Day or 24-Hr
- PW476\$507
- 4" (101mm) Pressure Chart Recorder, 0-300 PSI, 7-Day or 24-Hr
- PW479\$507
- 4" (101mm) Pressure Chart Recorder, 0-500 PSI, 24-Hr

3" CHART RECORDERS

Temperature

- SC367\$269
- 3" (76mm) Temperature Chart Recorder, -14°F to 32°F (-25C to 0°C)
- SC377\$269
- 3" (76mm) Temperature Chart Recorder, 4°F to 50°F (-15°C to 10°C)
- SC386\$269
- 3" (76mm) Temperature Chart Recorder, 22°F to 68°F (-5°C to 20°C)
- SC387\$269
- 3" (76mm) Temperature Chart Recorder, 50°F to 96°F (10°C to 35°C)
- SC397\$269
- 3" (76mm) Temperature Chart Recorder, 76°F to 122°F (25°C to 50°C)



KT6P2



SL4100



PW470



SC387

TAKING FLIGHT

A Proactive Approach to the
Perils of Air Freight Shipping

BY RACHEL KELLETT



Are you worried about getting perishable, temperature-sensitive air-freight to its destination without compromising its value? Whether your freight must remain within a certain

temperature range at all times or just needs to stay above freezing, taking the right steps to ensure a safe, timely delivery does not have to be a troublesome task.

The International Air Transport Association (IATA) states that a shipment is perishable if its contents will deteriorate over a period of time when exposed to severe environmental conditions, such as extreme temperatures or humidity. Examples of these perishable products include, but are not limited to, pharmaceuticals, chemicals, batteries, seafood, dairy, plants, meat, fruits, and vegetables. Temperature control within the cargo holds of most aircraft is limited and wide variations can occur throughout the entire hold. These variations depend upon placement, location, time at altitude, and the duration of the flight. However, the greatest and most frequent vulnerability to temperature exposure occurs on the airport tarmac when goods are exposed to outside elements before aircraft loading, or during unloading.

One industry that is particularly concerned

with temperature and humidity controlled air freight is the pharmaceutical industry, including the transportation and logistics providers that move, store, process, and deliver their products. According to IATA, by 2021 world sales of drugs and of biologics such as vaccines and insulin will top \$396 billion, in a global bio-pharma market exceeding \$1.47 trillion. Twenty percent of pharmaceutical products require active temperature-control, which could include refrigeration or freezing. This means that proper temperature monitoring is a key component in order to protect valuable product.

Another industry with need for temperature controlled air freight is the seafood industry. According to Seafood Scotland, exports moving from Scotland to Asia have risen more

than 400 percent since 2007. Among other types of seafood, the main list of goods are shellfish, salmon, whitefish and pelagic.

"Seafood now accounts for the largest rise in Scotland food shipments" says Natalie Bell, trade marketing manager for Europe, the Middle East and Asia at Seafood Scotland. Seafood poses an extreme risk of spoiling when exposed to high temperatures making temperature control and monitoring crucial in the shipping process.

Spoilage from heat isn't the only thing to worry about when it comes to air shipping. While some items are required to maintain freezing temperatures during transportation, other items such as chemicals cannot reach freezing temperatures. That being said, what steps can be taken to ensure a successful delivery?

First, highly temperature-sensitive items should be kept in temperature controlled docks and storage facilities pending the time it is ready to move to the aircraft. Always protect refrigerator and freezer products with gel packs, dry ice, foam sheets, or other insulating material. For extra protection, pre-cool the package container before packing the product. Fill all void space with dunnage such as loose fill peanuts to prevent product movement. If the shipment contains liquid or perishable products that can melt or thaw, bag the products or line the insulated container using a minimum 2-mil watertight plastic bag. Seal the package in an outer box with pressure sensitive tape applied to all flaps and seams.

Finally, the best way to prevent perishable product loss is to communicate with your shipping team about proper temperature sensitive product handling. Include temperature data loggers within the packaging of each shipment and aircraft cargo hold. Monitoring the temperature will guarantee that your shipment never went out of regulation temperature range. If rare events such as equipment failure or accidents happen to occur while the shipment is in transit, having a plan in place will make it easier to overcome the situation. [D](#)

when **every** point matters

A DICKSON CUSTOMER **SUCCESS STORY**

Client: Cygnus Technologies

Goal: Cygnus Technologies, a company that provides specialized products to the pharmaceutical and biotechnology industries, needed a solution to help them continue to achieve their goal of meeting their standards as well as ensuring product quality within their cold storage units.

Reasons: Prior to the installation of their new system, they were using thermometers with glass bottle sensors that they had to visually monitor inside their numerous refrigerators and freezers. If a temperature excursion occurred during off hours, they would not be aware for some time.

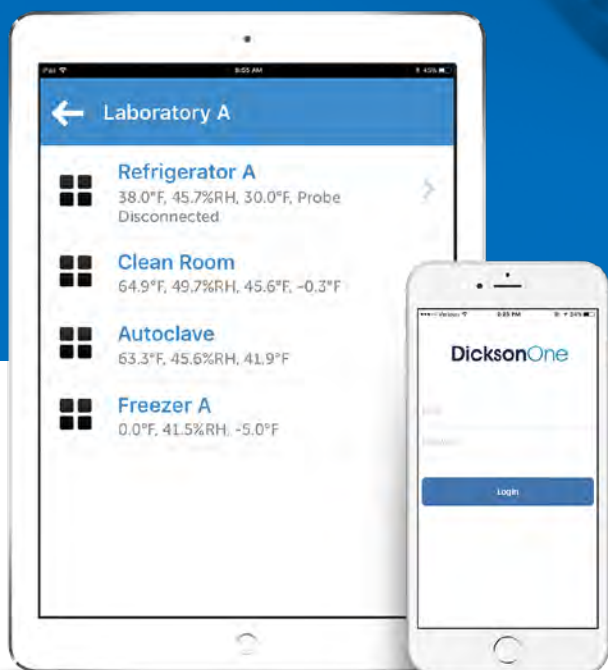
Capabilities: DicksonOne offers them the ability to have a system in place that allows sensors in all areas to continuously monitor and capture their cold storage temperatures automatically. The system sends excursion alerts at any time to notify end-users of a potential temperature deviation, as well as allows users to comment on alerts. Additionally, automated reports are sent to the end-user via email.

Results: Dickson was able to help Cygnus achieve their goals, which has resulted in compliance and further ensured the quality of their products. In the past year, DicksonOne was able to help identify two temperature escalations by alerting personnel via phone, text message, or email. These alerts allowed the personnel to respond quickly enough to prevent loss of material. Also, their QA Manager receives monthly reports with a summary of the temperature data, which he can then print and review.

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Available in 1/2" and 2" models.

For more information, see page 16. You may also visit DicksonData.com or call 630.563.4214 to speak with a product expert today!

