CD323 APRIL 2018

DICKSON

insights

INSIDE:

WRITE IT DOWN
Validation Will Prove You Aren't Getting Short-Changed

CLINICAL TRIAL
Monitoring From Start to Finish

USER ROLES
A QuickStart Guide

FOLLOW OUR MAP TO THE FINISH LINE

Environmental Mapping by Dickson

FEATURED PRODUCT OF THE MONTH

NEW! DIFFERENTIAL PRESSURE SENSOR • **PAGE 18**

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CONFIRMATION BIAS

Validation Provides Confirmation Based on Fact

When I was younger, my little sister got what was called a Lil' Miss Magic Hair doll for her birthday. She was so excited about this doll because her hair changed color when it got wet. In the children's commercial, this was as simple as running water over the hair and watching it change colors. In reality, though, my parents had to soak the doll's hair in ice water for hours to make the change happen. Needless to say, my sister felt used.

This is just one example of a child's expectations falling short of reality. Back then, there weren't product-review websites or videos. In fact, there wasn't much of an internet at all. It meant you couldn't validate an ad's claims before purchase. Luckily, today, with processes related to validation, you can ensure that you're getting what you paid for and that it works as intended. This is why Dickson offers validation to our most highly compliant customers. You need to be able to document each step to ensure a system works as intended in its environment.

In the pages ahead, you'll read more about this topic, as well as others, related to keeping your assets safe and your auditors happy.

Thanks for reading, and I hope you enjoy the April issue of Dickson Insights.

JEFF RENOE | INSIGHTS EDITOR-IN-CHIEF

Points **that Matter**

INTERPHEX New York, NY
April 17- 19 | Booth 1935

Join us at the show! Contact your rep to set up a meeting or email jeff@dicksondata.com to learn more today.

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DICKSON'S TURNKEY INSTALLATION MEANS SAVING TIME ON YOUR TIME.

Let's face it. Time is one of our most valuable resources, and usually you don't have enough of it. That's why we offer **installation**. We want to help you get some of it back. That means if time really does equal money, then working with Dickson is like putting money in the bank.

Dickson's Four-Point Plan

INSTALL

Easy just got easier. Let us give you your time back by installing your loggers wherever, whenever.

CONFIGURE

We'll take the time to connect your devices to the cloud and manage any alarms that you request.

TEST

Once everything is up and running we will test the devices to ensure they're working as intended.

TRAIN

Your system is ready to go, but we'll be there to answer any questions you may still have.

Want the most out of your DicksonOne system? We offer training courses to ensure that your team is getting the most from your monitoring system.

CLINICAL TRIAL MEDICATIONS:

Environmental Monitoring From Start to Finish

By Rachel Kellett

Clinical trials are an important step when it comes to determining the impact of a new potential treatment. With strict oversight by Institutional Review Boards, clinical trials provide the FDA with the information needed to weigh the benefits and risks of a new medication, and decide whether it is safe for patients.

The priority of every clinical trial is the safety of the patients participating. That means it is vital that the investigational medicine dispensed to the patient is in good condition and has been stored properly. It is essential that those performing the trial are able to control the temperature condition of the medications, as well as have visibility of any excursions prior to dispensation.

During a trial, medications are exposed to a multitude of environments during the entire process of packaging, shipping, and on-site storage. It is imperative that all of the points in this process are monitored so that the appropriate people are alerted to any temperature excursions. Furthermore, it is also important that once in storage, site staff can frequently monitor loggers in the refrigerators.

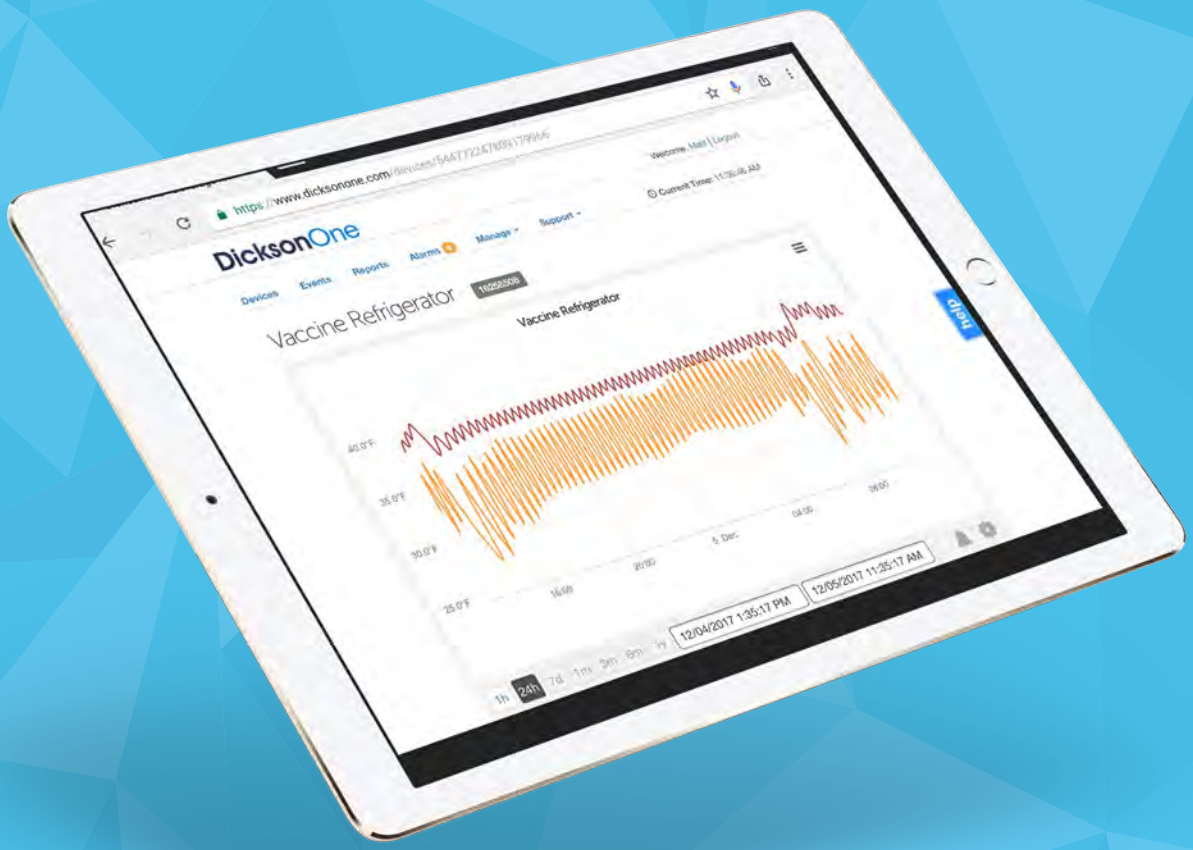
Packaging a temperature logger in with the medication enables temperature tracking through shipment and storage. This end-to-end approach provides a temperature history of the medications. For example, the staff may unpack a shipment and leave the medications on the side for a period before placing them in appropriate storage. The temperature of the room may cause an excursion causing the medications to become ineffective. With the data logging history, the staff can see when the excursion occurred and mark that shipment as unusable.

Most loggers being used today, including DicksonOne data loggers, allow for viewing of real time data from any mobile device, thus removing the need for manually uploading data. In cases where wifi or ethernet signal is not available, Dickson offers loggers that can download data directly into the DicksonOne portal through our Legacy Uploader tool, providing true end-to-end monitoring everywhere in the supply chain. These kinds of innovations in clinical supply chain management allow quick responses and paths of action to any temperature complications, which can reduce safety risks for patients as well as manufacturing and shipment costs for clients.

Temperature monitoring of medication has become increasingly important with regulation changes that have imposed an increase in what must be monitored, and an increase in complex, highly valuable medication has added to the difficulty of this task. Therefore it is vital that trial staff choose technology that not only reduces extra work, but also provides accurate and complete data on the temperature conditions in which the medicine has been exposed. Using technology that communicates with automatic uploads reduces the time staff needs to spend on temperature monitoring, and increases the time spent on patients. D

Have something personal you'd like to add to the conversation? Send your thoughts to jeff@dicksondata.com for a chance to be featured in a future blog or magazine.

DicksonOne isn't just a monitoring system.



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

DicksonOne

Let's face it. Life isn't one size fits all. Your system shouldn't be either.

Most companies don't have it easy when it comes to monitoring. There isn't a single floor or work space that needs to be watched, but often several points across an entire facility, including cold storage, chambers, manufacturing floors, and even warehousing space. Ongoing excursions at any point of the chain can mean lost product, fines from a failed audit, or even a lost contract.

That doesn't just put your company at risk. It puts you and your employees at risk, too. In the past, simply recording temperature and humidity data was enough to get the job done. Today, though, it isn't about the little black box recording the data, but about what you're able to do with the data once you have it. In an analytical world, every point of data can matter. Knowing all of your company's nuances through cloud-based monitoring and data collection can give you the confidence you need for total compliance and the accompanying peace of mind.

Meet Pam.

Hi, I'm Pam and I'm the Director of Product Quality at a midsize pharmaceutical manufacturer. My background is in product development, but I was told I got my job because I bring credibility to the audit process. It's a big part of my job, but not the only part of my job. I have two main goals I'm looking to meet every day at work.

Goal #1

Meet Quality Audits

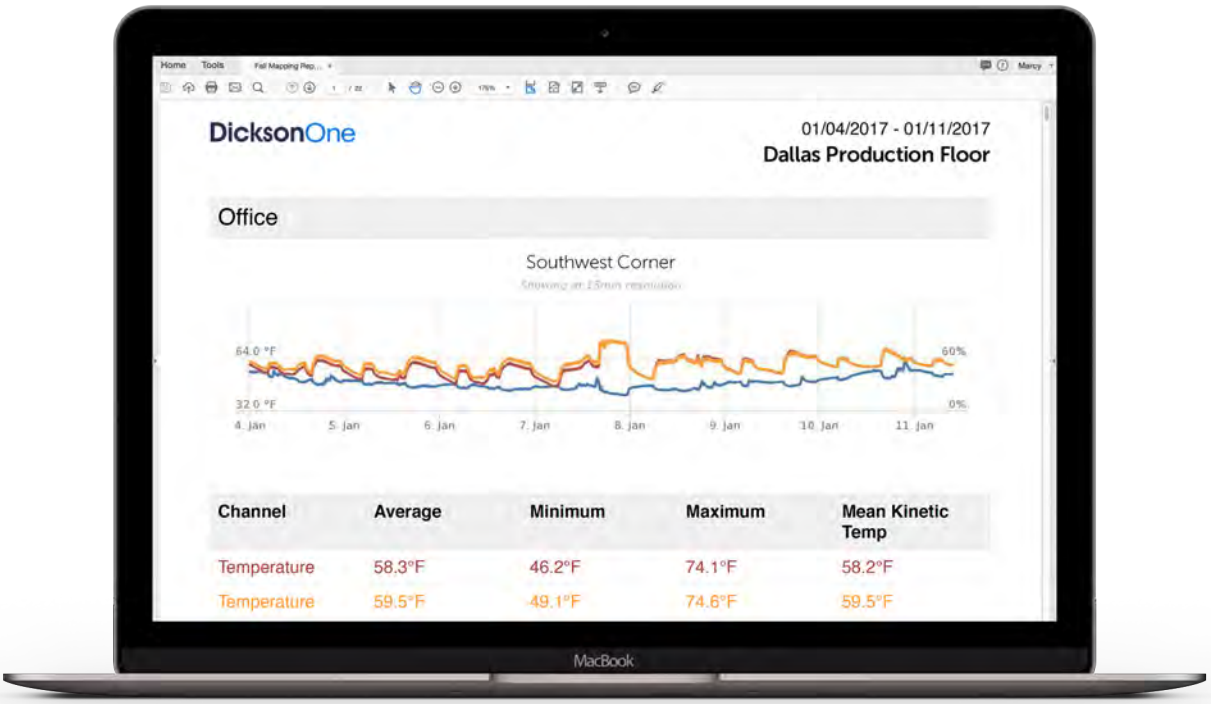
Pass audits
Reduce fines
Secure new contracts

Goal #2

Limit Degradation of Product Quality

Save money
Reduce spoilage
Better quality products for clients

Reporting in real time, on your time.



Device

Get graphical data for relevant devices across a custom time period. Report includes alarms, conditions, alarm durations, and any comments made to each excursion.

Tabular

See data for every device and every channel in a report that is ready to pivot so you can quickly digest and segment your data to meet all of your analytical needs.

Channel

See data for all of your sensors by channel. See temperature data readings, including their mean kinetic temperature, and the relative humidity in one quick, easy-to-view Excel document.

Calibration

Get everything you need to meet annual calibration requirements including device location, serial numbers, calibration intervals, and due dates in a single report.

Having device-based reports scheduled to deliver to my inbox every Monday morning means I can be ahead of the curve when it comes to recognizing any issues within our facilities, and helps me keep any of our product from spoiling.

Don't be alarmed. We'll let you know when there's reason to worry.

Real-time notifications are one of the keystone capabilities of the DicksonOne system. In many cases, a few minutes outside of the proper conditions can mean the loss of valuable inventory. With multiple notification methods, you can ensure the right people are up-to-date with any excursion with time to act before something spoils.

Choose from three types of alarms:

HIGH/LOW

Get notified when *the temperature or humidity passes critical thresholds*

NOT REPORTING

Get notified when *the system hasn't received data from your logger due to an outage*

PROBE DISCONNECTED

Get notified when *the sensor has been removed from the device*

Alarm notification types:

EMAIL

TEXT MESSAGE

PHONE CALL

AUDIBLE

Mix and match not only the type of notification, but also choose more than one alarm condition and different recipients.

- Customizable alarm delays allow you to cut down on nuisance notifications
- Receive a notification when a condition begins AND ends

Looking for something more advanced? Utilize the DicksonOne API or an electronic relay to integrate with building management systems (BMS), stack lights and sirens, or other applications.

It's nice to be able to go home for the weekend and not stress about what's going on at work. With text-based notifications, I can leave work at work and know I'll be alerted should anything need to be addressed on a Saturday.

Every company is different. Your alarms and notifications should be too.

Alarm escalations enable users to control what notifications are sent at what phase of an excursion.

Use escalations to:

Continue to be notified as long as an alarm condition is met

Notify a coworker, backup, or manager in case you can't get to it

Loop in other departments like IT or Facilities if the condition requires their help

I don't need to know of every excursion when it happens, I just need to know if it hasn't been addressed. DicksonOne's escalation policy means area employees can manage any problems that occur during the day, and, if not, I can be notified to care for it myself.

Do you have a lot of critical monitoring points or are you a part of a larger organization?

Utilize **alarm templates**, **escalation policies**, and **role-based alarms** to simplify and reduce repetitive work.

TEMPLATES

Apply an alarm condition and corresponding notifications to multiple devices and channels at one time.

POLICIES

Conveniently create, edit, and manage all alarm notifications and recipients for all locations in one centralized place.

ROLE-BASED ALARMS

Point alarm notifications to a role rather than a specific individual, allowing each user to manage their own notifications.

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. Talk to us about how we can help your organization streamline critical monitoring.

DicksonOne

The Touchscreen

Your data. Only a touch away.

The Touchscreen gives you the option to connect directly to DicksonOne. Just connect your device to your local WiFi network or plug it into an Ethernet port, log into DicksonOne and, boom, complete data control.

The Graph

We updated the user-interface, and made it easy to view and manage your data.

Monitoring

Pushing the play button brings you back to the most recent readings, updating the view in real-time.

Channels

The touchscreen automatically calculates and updates summary data for the selected time range.

Settings

Easily adjust sample rates, set alarms, and connect to DicksonOne.

Dickson's Touchscreens may not be for everyone, but our auditors love them. They show that we're monitoring and that we've been doing it for months. It's comforting to be able to locally prove our process is in place.

Recalibrate in less than a minute.

With Dickson's Replaceable Sensor System, you can recalibrate any DicksonOne device on the fly without the need of replacing devices. You can 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 a television remote.

Starting at $110, you can 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 CHANNELS	2	4	4
RELAYS		✓	✓
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
STARTING PRICE	**$350**	**$524**	**$599**

Subscriptions

DicksonOne devices send data to the cloud automatically, freeing up resources to do what they do best.

BASIC
$0

Unlimited devices.
Data stored for 30 days.
One-hour sample interval.

STARTER
$300

1-10 devices.
Data stored for life of account.
Multiple sample rates.
Email, phone, & text alerts.
API access.

REGULAR
$725

11-25 devices.
Data stored for life of account.
Multiple sample rates.
Email, phone, & text alerts.
API access.

PLUS
$1,400

36-50 devices.
Data stored for life of account.
Multiple sample rates.
Email, phone, & text alerts.
API access.

ENTERPRISE
Call TODAY for a quote!

51+ devices.
Data stored for life of account.
Multiple sample rates.
Email, phone, & text alerts.
API access.

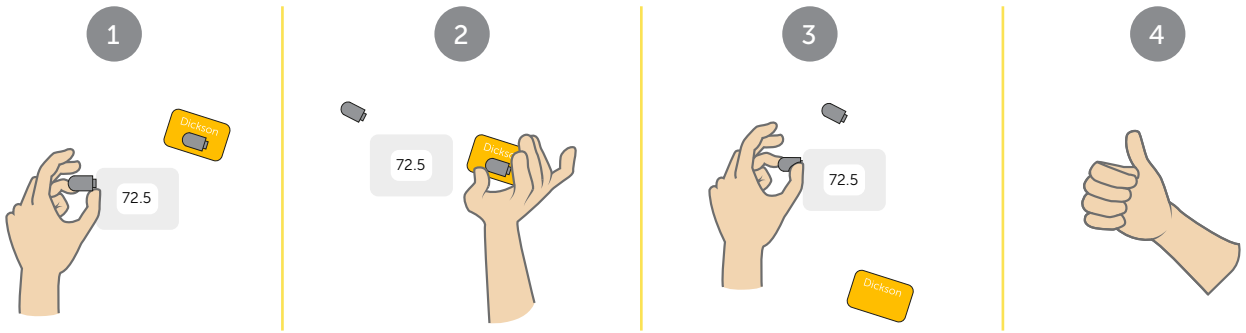
$3 PER DEVICE BILLING!
(Per device, per month. Credit card required.)

Whether you have one device or 100 devices, Dickson offers Gold Level Technical Support to all users. Talk to a specialist at **630.563.4202** or email us at **support@dicksonone.com**.

REPLACEABLE SENSORS TURN DOWNTIME INTO GO-TIME

Calibrating devices can be an arduous process. You have to take them out of service, put a backup unit in place, mail it in, wait for it to be calibrated, wait for it to be shipped back, receive it, unpack it, replace the unit in its usual spot, and then pack the backup away until it's time to calibrate again in the future. Thanks to replaceable sensors you can calibrate the sensor, apart from the device.

Swap your sensors in less than a minute:



ZERO DOWN TIME

FAST & EFFICIENT

COST-EFFECTIVE

IF ACCURACY ISN'T NEGOTIABLE, CALIBRATION ISN'T EITHER.

When strict environmental conditions are required, it's important to have proof that they've been maintained. While a device may record the data, it's the **calibration** that proves its validity. While every sensor that leaves Dickson is made to be accurate, a certificate of calibration will stand up to audit. It'll help protect you from a 483, or any other penalty involved with your industry's regulatory governing body.

Choose from the following certifications:

1-POINT **NIST**

- One specific temperature point (middle) calibration
- Good if your temperature varies little
- Choice to specify the temperature point to best reflect your application

3-POINT **NIST**

- Three-point (high, middle, and low) temperature point calibration
- Grants a larger proof of accuracy
- Choice to specify the temperature points to best reflect your application

Need help? Let us be your calibration experts. | 630.563.4202 | support@dicksondata.com

USER ROLES

A QuickStart Guide

By Scott Halasy, Product Manager

WE'VE RECENTLY ROLLED OUT new functionality in DicksonOne that allows for assigning titles, or as we like to call them, roles, to users in the system. These roles can be used to simplify the process of configuring alarms, particularly for larger organizations with many devices across many locations that cover the same or similar applications.

WHAT ARE USER ROLES?

User roles are essentially job titles or functions and can be used to classify particular users of your account according to their job or responsibilities; in particular as they relate to environmental monitoring responsibilities. This means a user can be tagged as a certain role, and that role can be associated with actions within the system. Currently, this feature is only available when configuring alarms, but we foresee it extending to reporting and permissions at a later date.

Previously, all alarm notifications (both phone numbers and email addresses) were manually configured and maintained; either as part of a custom alarm on a particular device or an alarm template. When a situation changed (say, a new user was taking over a particular lab and needed to be included on alarm notifications going forward), an account administrator would have to manually add the numbers and emails on each alarm or template associated with that particular lab. It had the potential of becoming a cumbersome process, to say the least, especially in larger organizations where these changes can occur often.

HOW USERS, CONTACTS, AND ROLES WORK TOGETHER

Alarms are one of the most popular features in the system and any opportunity to improve those goes a long way with the majority of users. In addition, with a greater number of devices, the more complex and time-consuming the system configuration and operation becomes.

A combination of independent but related features in DicksonOne can help streamline the process of assigning alarm notifications and maintaining them on an ongoing basis. User roles are the final component of this feature set that includes contacts, contact methods (stored phone numbers and email addresses), escalation policies, and user roles. Together all of these things allow for a whole new way to manage all alarms and notifications.

The benefits of this feature set are numerous, including a significant reduction in administrative time (which will vary depending on the number of devices and users on the account), more visibility and accountability (admin users have ultimate control over all alarming functionality), and reduced risk of errors (no more mistyped phone numbers, or forgetting to update the one notification that matters most). Here are a number of scenarios that make the most sense with regards to each new feature.

CONTACT BOOK

This is pretty self explanatory (see Image A). You're able to save user's notification preferences on the DicksonOne system. This can be a singular or multiple email addresses and phone numbers for each person's preferred contact method. Users can also now be classified according to a particular "role." Account admins have the ability to do this and can choose from pre-selected available roles, or you can create your own.

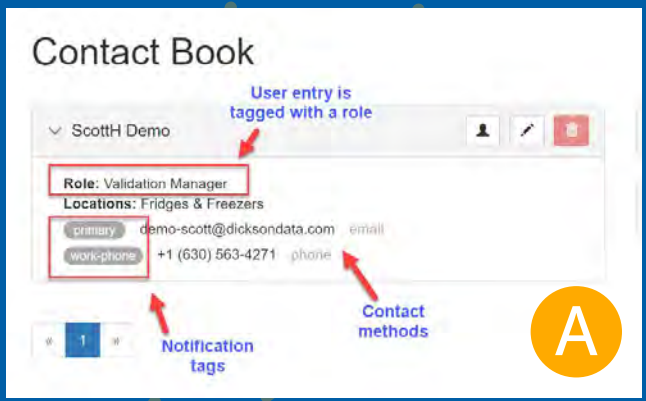
ROLES

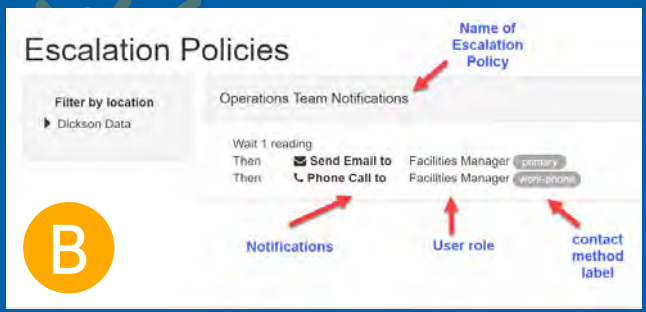
Roles can make the rationale behind escalation policies better than ever, because you can now create a policy for each of those assigned and created roles. That's because they are designed to group alarm notifications according to a particular use case. Often times, that "use case" is really associated with the role of the users receiving the notifications for a particular monitoring point (i.e., "Operations Team Notifications")

As an example (see Image B), say that we have an escalation policy titled "Operations Team Notifications," where we can now add notifications to send to the operations employees who are required to receive these notifications. But we don't have to specify which operations folks to send to, because we may want to send a notification to different individuals at various locations. This is when we would apply the notification to a "Role" rather than a specific person. These have the potential to be powerful tools, saving users hours (or perhaps days) of work both managing and configuring all of those notifications on an ongoing basis. For example, if one of our hypothetical operations employees moved to a different department or simply changed phone numbers, you can simply update the contact method for that user, or tag the replacement user with the appropriate role. Doing so following this update means that all of the associated alarms and notifications will be updated automatically.

Recently we assisted a new, large customer in configuring alarms for hundreds of users across hundreds of locations; contacts, user roles, and escalation policies together saved several full days of work. It's just proof that automating your work day with cloud based systems can help simplify your work life and help ensure that you remain in compliance with industry regulations.

Want to learn more about User Roles? Visit DicksonData.com/blog and search for User Roles, or call 630.563.4202 for any questions you may have on the feature.





MEET YOUR MATCH.

We've taken features from our bestselling data loggers and turned them into a single, powerful device. Using Dickson's Replaceable Sensors, the DSB Display Logger collects all of the temperature and humidity data you're accustomed to. You can learn more about Replaceable Sensors on page 12.

UP TO 2 YEARS BATTERY LIFE

COMPACT DESIGN

REPLACEABLE SENSORS

UPDATED DICKSONWARE

Starting at $199. Visit DicksonData.com/DSB for more info.

You'll love Legacy Uploader

View, analyze and export your data in a 21CFR11 compliant environment. Want to share your data with others throughout the company? Now you can manually upload all of your downloaded data to the DicksonOne Cloud thanks to our new Legacy Uploader tool. For details, visit DicksonData.com/Uploader.

VALIDATION MEANS MINDING YOUR P'S AND Q'S

If you're in the quality assurance business like us, **validation** is a term you hear every day. "Validation" falls under the umbrella of terms businesses use to discuss the quality of their product, facility, or service. For those not well-versed in the world of quality assurance, hearing "validation" can send you running to hide under your desk. Luckily, Dickson offers validation services for our DicksonOne and DicksonWare software customers, also including temperature controlled equipment such as refrigerators, stability chambers, freezers, walk-in chambers, and much more.

For Every Q There's an A:

IQ

INSTALLATION QUALIFICATION

TESTS
VERIFICATION OF CORRECT EQUIPMENT OPERATION

ENSURES
CORRECT OPERATION OF SYSTEM PER SPECS

ESTABLISHES
A BASELINE FOR EQUIPMENT

OQ

OPERATIONAL QUALIFICATION

TESTS
VERIFICATION OF CORRECT EQUIPMENT OPERATION

ENSURES
CORRECT OPERATION OF SYSTEM PER SPECS

VERIFIES
SYSTEM MEETS CLAIMS FROM PARAMETERS

PQ

PERFORMANCE QUALIFICATION

TESTS
VERIFICATION OF CORRECT EQUIPMENT OPERATION

ENSURES
CORRECT OPERATION OF SYSTEM PER SPECS

VERIFIES
SYSTEM MEETS CUSTOMER'S INTENDED PURPOSE

NOW ON DICKSONONE:
DIFFERENTIAL PRESSURE

Customers have trusted our products for more than 90 years. In fact, they're in use by more than 70% of Fortune 100 companies today. As those customers' needs change over time, so do our offerings. That's why we 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.

Specifications:

RSO80

Measurement Range	-500 to +500 Pa (± 2 inches H_2O)
Zero Point Accuracy	0.1 Pa
Span Accuracy	3% of reading
Zero Point Repeatability	0.03 Pa
Span Shift Due to Temperature Variation	< 0.5% of reading per 10°C
Calibrated for	Air, N_2
Calibrated Temperature Range	-40°C to +85°C

RSO81

Measurement Range	-125 to +125 Pa (± ½ inches H_2O)
Zero Point Accuracy	0.08 Pa
Span Accuracy	3% of reading
Zero Point Repeatability	0.025 Pa
Span Shift Due to Temperature Variation	< 0.5% of reading per 10°C
Calibrated for	Air, N_2
Calibrated Temperature Range	-40°C to +85°C

Both models include 2 feet of tubing.

PRODUCT OVERVIEW

Data Loggers

Data loggers are cost-effective solutions for monitoring any required area's temperature or humidity. Our full line of data loggers come in a variety of shapes and sizes to meet your needs, and include the important features your application requires:

- High resolution digital displays for viewing measurements in real time
- Audible and visual alarms for excursion alerts
- Flash memory for easily downloading and storing data

Touchscreens

Our most advanced line of data loggers, our touchscreens are as easy to use as your personal tablet or smartphone. The devices feature customizable views, alarms, and more. Features include:

- LCD touchscreen with pinch, swipe, and zoom
- DicksonOne cloud computing and storage
- Power over Ethernet
- Phone, Email, and Text Alarms

Chart Recorders

We don't just build chart recorders. They're our legacy. We've worked to perfect the devices for use in situations where wireless or digital monitoring isn't possible. That's why, as regulations continue to change and make these devices obsolete for many of our customers, we keep building and innovating them. With a variety of sizes, applications, and now replaceable sensors, chances are we have a solution that meets all of your non-digital needs.

DATA LOGGERS

For data loggers, temperature and humidity measurements and dates and times are stored as data. That data is stored in the device for later download (via software) onto a computer, or sent to a cloud application or server for remote access.

INDICATORS

MM120 Vaccine Alarm Thermometer — **$49**
1-Probe Vaccine Alarm Thermometer. Battery Powered.
Temperature Range: -50°F to 122°F (-50°C to 50°C)
Accuracy: ±1.8°F from 0° to 122°F (±1°C from -18°C to 50°C)

MM125 Vaccine Alarm Thermometer — **$59**
1-Probe Vaccine Alarm Thermometer. Battery Powered.
Temperature Range: -58°F to 122°F (-50 to 50°C)
Accuracy: ±1.8°F from 0° to 120°F (±1°C from -18°C to 49°C)

D182 Infrared Thermometer — **$60**
Non-Contact Infrared Thermometer.
Lightweight, Easy-Grip Design. Battery Powered.
Temperature Range: -58°F to 986°F (-50°C to 530°C)

D186 Infrared Thermometer — **$149**
Non-Contact Infrared Thermometer.
Lightweight, Easy-Grip Design. Battery Powered.
Temperature Range: -67°F to 536°F (-55 to 280°C)
Accuracy: ±1°F from 32°F to 150°F (±0.6C from 0 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)

TH700 Touchscreen Handheld Indicator — **$299**
Instant Temperature/Humidity Data.
No-Slip Silicone Cover. Battery Powered.
Temperature Range: -40°F to 185°F, (-40°C to 85°C)
Humidity Range: 0 to 95% RH (non-condensing)


MM120


MM122


D182


D186


TC700


TH700

HIGH TEMPERATURE

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
1 & 3 Point Calibration options available.

HT350 High Temperature Process Logger — **$349**
HACCP Approved. K-Thermocouple Probe, USB Download.
Temperature Range: -40°F to 257°F (-40 to 125°C)
1 & 3 Point Calibration options available.


HT300


HT350

VOLTAGE

ES120 Voltage Data Logger — **$249**
0-20 mA or 0-5V Voltage Data Logger
5-Year Battery Life. 32,000 Data Point Storage.

ES120

TOUCHSCREEN

TSB Touchscreen - USB

STARTING AT **$424**

Ambient Operating Temperature Conditions: 14°F to 140°F (-10°C to 60°C)
Battery Backup: 70 Hours
Battery Type: Rechargeable Backup Battery
Data Capacity: Approx 1,000,000 sample points (backup)
Dimensions: 8.5 x 1.75 x 7" (21 x 4.5 x 18cm)
Display Dimensions: 8" Diagonal
Display Type: LCD Touchscreen
Sensor Type: Replaceable Sensor(s)

TSB

COMPACT

SP125 Temperature Data Logger — $119

Range: -10°F to 176°F (-23°C to 80°C)
Accuracy: ±1.2°F from -10°F to 176F (±0.7°C from -23°C to 80°C)

TP125 Temperature & Humidity Logger — $199

Range: -10°F to 176°F (-23°C to 80°C)
Accuracy: ±0.8°F from 20°F to 120°F (±0.44°C from -7°C to 49°C)
Humidity: ±2% RH from 0 to 60%; ±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: ±1.8°F from -4°F to 158°F (±1°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: ±1.8°F from -4°F to 158°F (±1°C from -20°C to 70°C)
Humidity: ±2% RH from 0 to 60%; ±3% RH from 60 to 95%

SP125

TK550

DISPLAY

SP425 Display Temperature Data Logger — $159

Range: -4°F to 158°F (-20°C to 70°C)
Accuracy: ±1.2°F from -4°F to 158°F (±0.7°C from -20°C to 70°C)

TP425 Display Temperature & Humidity Logger — $249

Range: -4°F to 158°F (-20°C to 70°C)
Accuracy: ±0.8°F from 20°F to 120°F (±0.44°C from -6°C to 48°C)
Humidity: ±2% RH from 0 to 60%; ±3% RH from 60 to 95%

DSB Display Temperature & Humidity Logger

STARTING AT **$199**

Fully redesigned, the DSB incorporates features from our best selling devices into non-connected units. With the logger, it's easy to collect temperature and humdity data from Dickson's replaceable sensors.

- USB enabled for fast downloading with Legacy Uploader
- Easy-to-use interface
- Audio and Visual alarms
- Compatible with Replaceable Sensors

SP425

TP425

DSB

See page 16 for more on the DSB.

DICKSONWARE

Why go digital? That's easy.

DicksonWare now allows you to store and share data easily with others in your organization by uploading it to our cloud-based environmental monitoring system, DicksonOne. For more information, visit DicksonData.com/Dicksonware.

CHART RECORDERS

Want a physical readout right where you are monitoring? Our chart recorders have you covered. For 90 years we've built the best chart recorders in the business. Check out our models below.

8" Models

TEMPERATURE

KT8P0 — $436
8" (203mm) Temperature Chart Recorder with Replaceable Sensor and Battery Operation

KT8P2 — $489
8" (203mm) Temperature Chart Recorder with Replaceable Sensor, AC Power (Battery Back-Up), and Display

KT8P3 — $594
8" (203mm) Temperature Chart Recorder with Replaceable Sensor, AC Power (Battery Back-Up), Display, and Alarm

KT856 — $759
8" (203mm) Temperature Chart Recorder with Replaceable Sensor, AC Power (Battery Back-Up), Display, Alarm, and Relays

TEMPERATURE & HUMIDITY

TH8P0 — $509
8" (203mm) High-Resolution Temperature & Humidity Chart Recorder with Battery Operation and Replaceable Sensor

TH8P2 — $594
8" (203mm) High-Resolution Temperature & Humidity Chart Recorder with Display and Replaceable Sensor

TH8P3 — $709
8" (203mm) High-Resolution Temperature & Humidity Chart Recorder with Display, Alarm, and Replaceable Sensor

TH8P5 — $759
8" (203mm) High-Resolution Temperature & Humidity Chart Recorder with Display, Alarm, Relays, and Replaceable Sensor

PRESSURE

PW860 — $654
8" (203mm) Pressure Chart Recorder, 0-100 PSI, 7-Day

PW861 — $654
8" (203mm) Pressure Chart Recorder, 0-100 PSI, 24-Hr

PW864 — $654
8" (203mm) Pressure Chart Recorder, 0-200 PSI, 7-Day

PW865 — $654
8" (203mm) Pressure Chart Recorder, 0-200 PSI, 24-Hr

PW866 — $654
8" (203mm) Pressure Chart Recorder, 0-300 PSI, 7-Day

PW867 — $654
8" (203mm) Pressure Chart Recorder, 0-300 PSI, 24-Hr

PW875 — $779
8" (203mm) Pressure Chart Recorder, 0-1000 PSI, 24-Hr

6" Models

TEMPERATURE

KT6P1 — **$384**

6" (152mm) Temperature Chart Recorder with Replaceable Sensors

KT6P2 — **$489**

6" (152mm) Temperature Chart Recorder with Probe, Display, and Replaceable Sensors

KT6P5 — **$624**

6" (152mm) Temperature Chart Recorder with Probe, Display, Alarms, Relay, and Replaceable Sensors

TEMPERATURE & HUMIDITY

TH6P1 — **$509**

6" (152mm) Temperature & Humidity Chart Recorder with AC Power/Battery Backup and Replaceable Sensors

4" Models

TEMPERATURE

SL4100 — **$249**

4" (101mm) Portable, Battery Operated Temperature (-18 to 37C) Chart Recorder with Display

SL4350 — **$249**

4" (101mm) Portable, Battery Operated Temperature (-30 to 50C) Chart Recorder with Display

PRESSURE

PW470 — **$469**

4" (101mm) Pressure Chart Recorder, 0-100 PSI, 7-Day or 24-Hr

PW474 — **$469**

4" (101mm) Pressure Chart Recorder, 0-200 PSI, 7-Day or 24-Hr

PW476 — **$469**

4" (101mm) Pressure Chart Recorder, 0-300 PSI, 7-Day or 24-Hr

PW479 — **$469**

4" (101mm) Pressure Chart Recorder, 0-500 PSI, 24-Hr

3" Models

TEMPERATURE

SC367 — **$249**

3" (76mm) Temperature Chart Recorder, -14°F to 32°F (-25°C to 0°C)

SC377 — **$249**

3" (76mm) Temperature Chart Recorder, 4°F to 50°F (-15°C to 10°C)

SC386 — **$249**

3" (76mm) Temperature Chart Recorder, 22°F to 68°F (-5°C to 20°C)

SC387 — **$249**

3" (76mm) Temperature Chart Recorder, 50°F to 96°F (10°C to 35°C)

SC397 — **$249**

3" (76mm) Temperature Chart Recorder, 76°F to 122°F (25°C to 50°C)

ENVIRONMENTAL MAPPING THAT NAVIGATES FROM START TO FINISH.

When it comes to getting work done, you want to get it done right and as quickly as possible. That's why, as **temperature mapping** is becoming more of a necessity for our customers even while their resources are diminishing, our services team is here for you. It means you can spend more time focusing on business and less time worried about how to get from A to B. It means that, with Dickson, you can cross the finish line without even running the race.

Contact a specialist **today at (630) 563-4202.**

How it works:

CREATE A PLAN OF ATTACK

We evaluate and decide where to place devices for a successful mapping.

MEET AUDIT REQUIREMENTS

Avoid surprises and rely on our experts to create reports that are defendable in an audit.

DICKSON-CALIBRATED DEVICES

No 3rd party vendors here. Dickson calibration saves you time and headaches.

ENVIRONMENTAL INVESTIGATION

We're here to digest, analyze, and help you understand your facility and its data.

COMPLIANT TO REGULATORY BOARDS

We follow guidelines provided by the World Health Organization and ISPE.

WRITE IT DOWN

By Jeff Renoe

Validation Will Prove You Aren't Getting Short-Changed

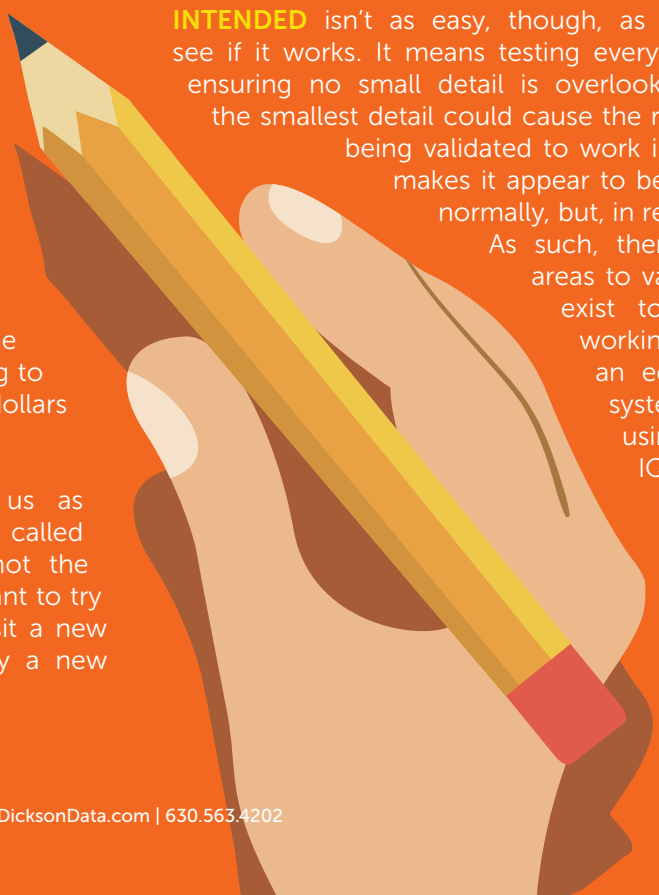
THERE ARE FEW THINGS MORE FRUSTRATING than getting something you wanted and having it not live up to the expectations you'd built up in your mind. The last thing that anyone wants is the disappointment and frustration of being sold a bill of goods. That's why the ability to validate is critical in today's society.

A great, and albeit extreme, example where validation would have been advantageous is the Fyre Festival that took place last year in the Bahamas. It was billed as a luxury music festival, costing more than $12,000 for a weekend on the islands. The show promised luxury accommodations, high end meals, and performances by some of the top musical acts in the world. Instead, attendees were treated to cheese sandwiches served in styrofoam boxes, limited performers, and relief tents that looked nothing like the magical and luxurious family tents that J.K. Rowling had imagined in Harry Potter and the Goblet of Fire on the inside. Instead of having the time of their lives, concert goers were scrambling to hop on planes back home, thousands of dollars poorer than when they'd arrived.

Today, validation tools are all around us as consumers. In the simplest form, they're called review sites. They validate whether or not the decisions we're about to make are right. Want to try a new restaurant? Check yelp. Want to visit a new destination? Visit TripAdvisor. Want to buy a new product? Check out the Amazon reviews.

True validation, in a business sense, goes much deeper than having someone tell you that a product works as intended. It's about documented proof that proves, without a shadow of a doubt, that every nuance, from the biggest of features to the smallest bit of code, works as expected. For our customers that face the most stringent regulations, compliance often means ensuring everything, from the machines in operation to the systems that run them, has validation documentation attached to it.

DOCUMENTING THAT SOMETHING WORKS AS INTENDED isn't as easy, though, as watching to see if it works. It means testing every aspect, and ensuring no small detail is overlooked, because the smallest detail could cause the rest of what's being validated to work in a way that makes it appear to be functioning normally, but, in reality, it's not. As such, there are three areas to validation that exist to prove the working order of an equipment or system you're using known as IQ, OQ, and PQ.



INSTALLATION QUALIFICATION (IQ)

In order to ensure something works properly, one of the things you need to have documented is a baseline of the installation parameters. This gives you something to look back on to understand if what you're getting consistently matches the expectation you put in place when first setting up a system. In the process of qualifying the installation, you're also documenting to ensure that it's been put in place properly and all required supporting utilities and periphery equipment is installed as outlined by the manufacturer's specifications. This process provides documented evidence that the installation was performed correctly and this ensures that, prior to functionally testing the equipment/software, it has been set up correctly.

OPERATIONAL QUALIFICATION (OQ)

The next stage of the validation process is about verifying your new equipment and system operate as intended according to the specifications. As with an IQ, documentation is paramount. Testing in the OQ generally allows you to test the different pieces that make up the equipment to ensure they are functioning correctly. These tests most likely differ from equipment to equipment, but gives you documented evidence that the equipment functions correctly. This allows you to verify in an audit that the system used meets the required criteria for being up to code and the system is ready to be challenged in your operations.

PERFORMANCE QUALIFICATION (PQ)

The final part of a validation package, performance qualification, ensures that your equipment or software is capable of running in your environment at the given specifications of your operation. This is where you will simulate process parameters and challenge your equipment to function at the extremes of your operation. Can I make 1,000 widgets in a production run that meet my specifications and can my equipment handle this? You will typically use some statistical sampling to determine if you can meet your quality requirements. Other PQ tests may challenge the business process programmed into your software. Does it work as intended? Or, can my environmental chamber handle a partial and full load of product and still deliver uniform environmental conditions? PQ will tell you that your equipment or software is capable of working reliably in your processing environment and within your specifications.

VALIDATION CAN BE A TIME CONSUMING PROCESS. It's not something that occurs simply by turning on a machine and ensuring it runs. It involves a lengthy checklist within the confines of a protocol to ensure that every part of the system is working as it is intended, because if a single button, or algorithm is firing incorrectly, your system, data, and product are all at risk. This ensures you are making quality products, consistently reducing the chance for rejected products and recalls, and increasingly satisfying customers. Additionally if you are finding issues with your equipment or software during validation this can be addressed with the manufacturer well before it's used in operations. This ensures you are not getting short changed on your purchase and you have the documentation to prove it.

Through the validation process, Dickson's Services Team is able to document the proper working order of your equipment or software system. It's just another way we ensure that, not only does every point matter, but every point is captured, cataloged, and verifiably defendable in an audit. That means, if you pick up the phone to call Dickson, you can be sure that what's delivered acts as intended. That's a bill of goods we can all be satisfied with. D

If you're interested in learning more about Dickson's validation services, visit dicksondata.com/validation to learn more, or dial 630.563.4202 to set up a consultation with a validation specialist today.

Have something personal to add to the story? Maybe a funny example in your life where expectation failed to meet reality? Email it to Jeff@DicksonData.com for a chance to be featured in an upcoming blog or article in Dickson's Insights Magazine.

when **every** point matters

A DICKSON CUSTOMER **SUCCESS STORY**

A medical device manufacturer that's been a Dickson customer since 2008 had been a long time purchaser of Dickson's 8-inch chart recorders. Ongoing conversation with the customer revealed a desire to gather more accurate and reliable readings to meet quality and compliance concerns within their highly regulated environment.

After an extended dialogue, the customer decided that DicksonOne was the best solution for achieving their goals. The upgrade they made to their system provided them access to exact readings, remote alerting, and detailed reporting.

The company was so happy with their new cloud-based monitoring system that they've now expanded the use of DicksonOne into four of their locations and completed three service jobs from our environmental mapping team with four more remaining on the calendar. The total combination of products, software, and services provided by Dickson allowed the customer to accomplish the goals they had outlined at the beginning of their project.

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DICKSON
930 South Westwood Avenue
Addison, Illinois 60101-4917

Phone | 630.563.4202
Fax | 800.676.0498
Web | DicksonData.com

NOW AVAILABLE

Differential Pressure Sensors are now available for use with our cloud-based monitoring system. Get data delivered to DicksonOne with programmable alerts via text, call, or email to let you know when your pressure is out of control.

Available in ½" and 2" models.

For more information, see page 18. You may also visit DicksonData.com or call 630.563.4202 to speak with a product expert today!

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