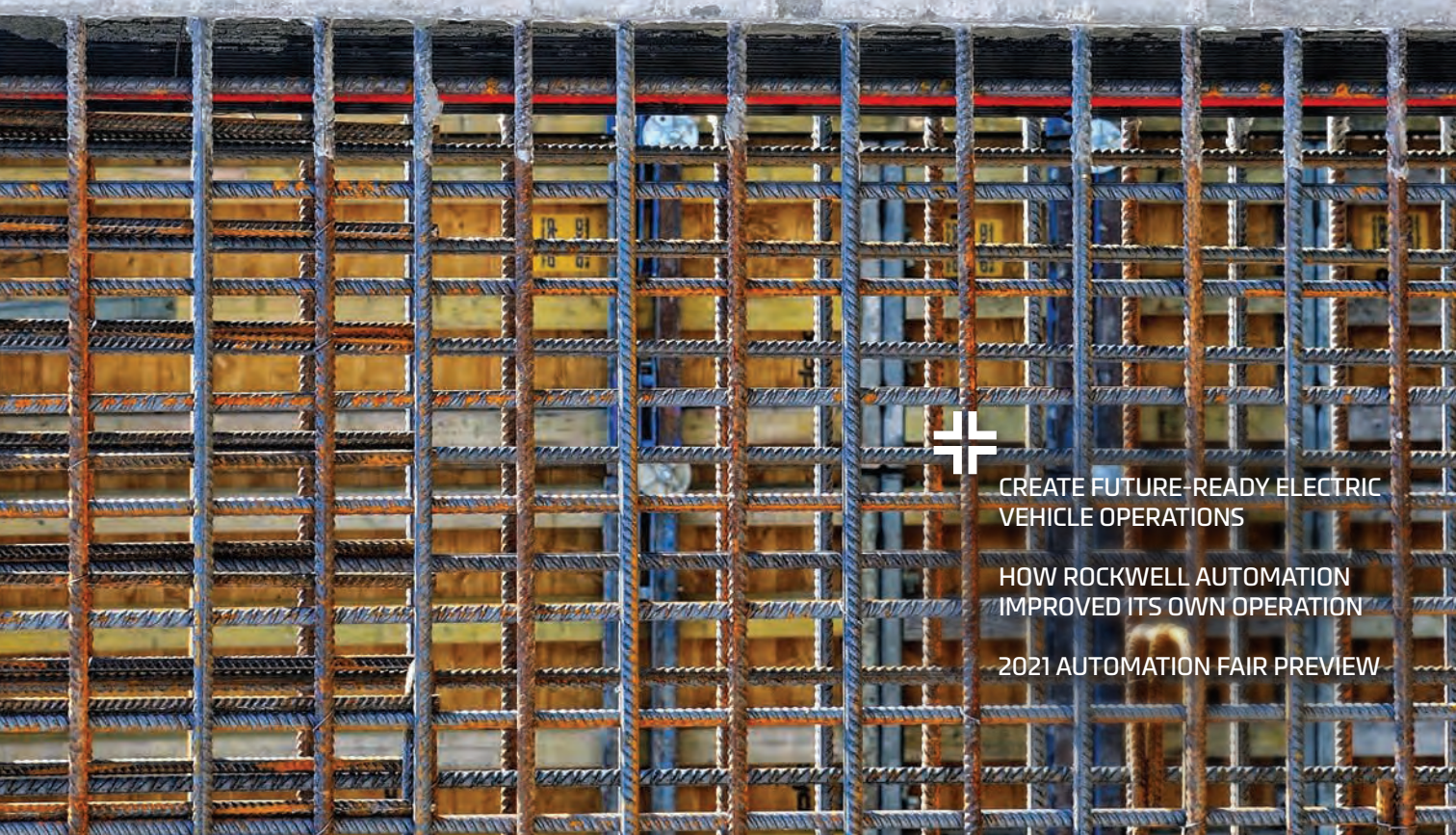
the journal

AUGUST 2021

from Rockwell Automation and our PartnerNetwork™

BUILD A FOUNDATION FOR SAFETY

PRODUCT DESIGN, STANDARDS AND MAINTENANCE FORM THE BASIS OF AN ELECTRICAL SAFETY STRATEGY TO HELP PROTECT WORKERS AND EQUIPMENT.



SPECTRUM CONTROLS

InView®

Industrial Marquee Displays

Message Visibility From Up To 450 Feet Away!

2-Inch High Display

12-in by 2-in

4-Inch High Displays

36-in by 4-in
72-in by 4-in

7-Inch High Displays

*36-in by 7-in**
*60-in by 7-in**

10-Inch High Displays

*40-in by 10-in**
*69-in by 10-in**

- Simplified integration into Rockwell Automation systems
- Vastly superior viewing angle than LCD & most LED displays
- Dynamic messaging, with the use of variables, for real-time information
- NEMA rated enclosures, purpose-built for the industrial environment
- Fully licensed Rockwell Automation technology

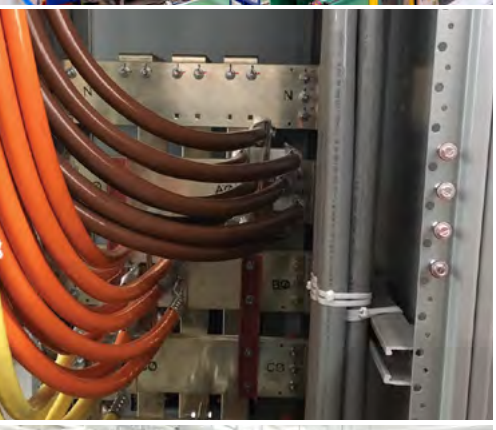
*NEMA 4X Stainless Steel Enclosures Available

spectrum@spectrumcontrols.com
spectrumcontrols.com

SILVER
Technology Partner
A ROCKWELL AUTOMATION PARTNER

Southwire®

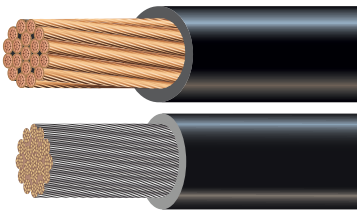
BRONZE
Technology Partner
A ROCKWELL AUTOMATION PARTNER



ARE YOU INSTALLING THE BEST CABLE SOLUTION FOR YOUR INDUSTRIAL APPLICATION?

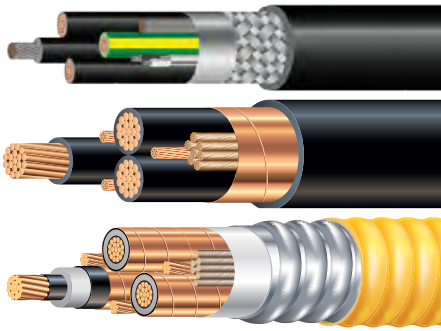
Machine*FLEX*™ POWER CABLE

Southwire Company, LLC's Machine*FLEX*™ Power Cable (rated THHN or XHHW) has been designed to help make difficult installations easier. By combining the insulation properties and pulling ease of THHN/XHHW with the flexibility of fine stranded copper, this cable helps to increase efficiency and productivity on the jobsite while improving safety.



VARIABLE FREQUENCY DRIVE (VFD) CABLES

Our NFPA 79 compliant VFD cables help keep your drives and motors running efficiently and help to ensure you're using the safest cable solution for your VFD applications.



To learn more email factoryautomation@southwire.com or visit Southwire.com

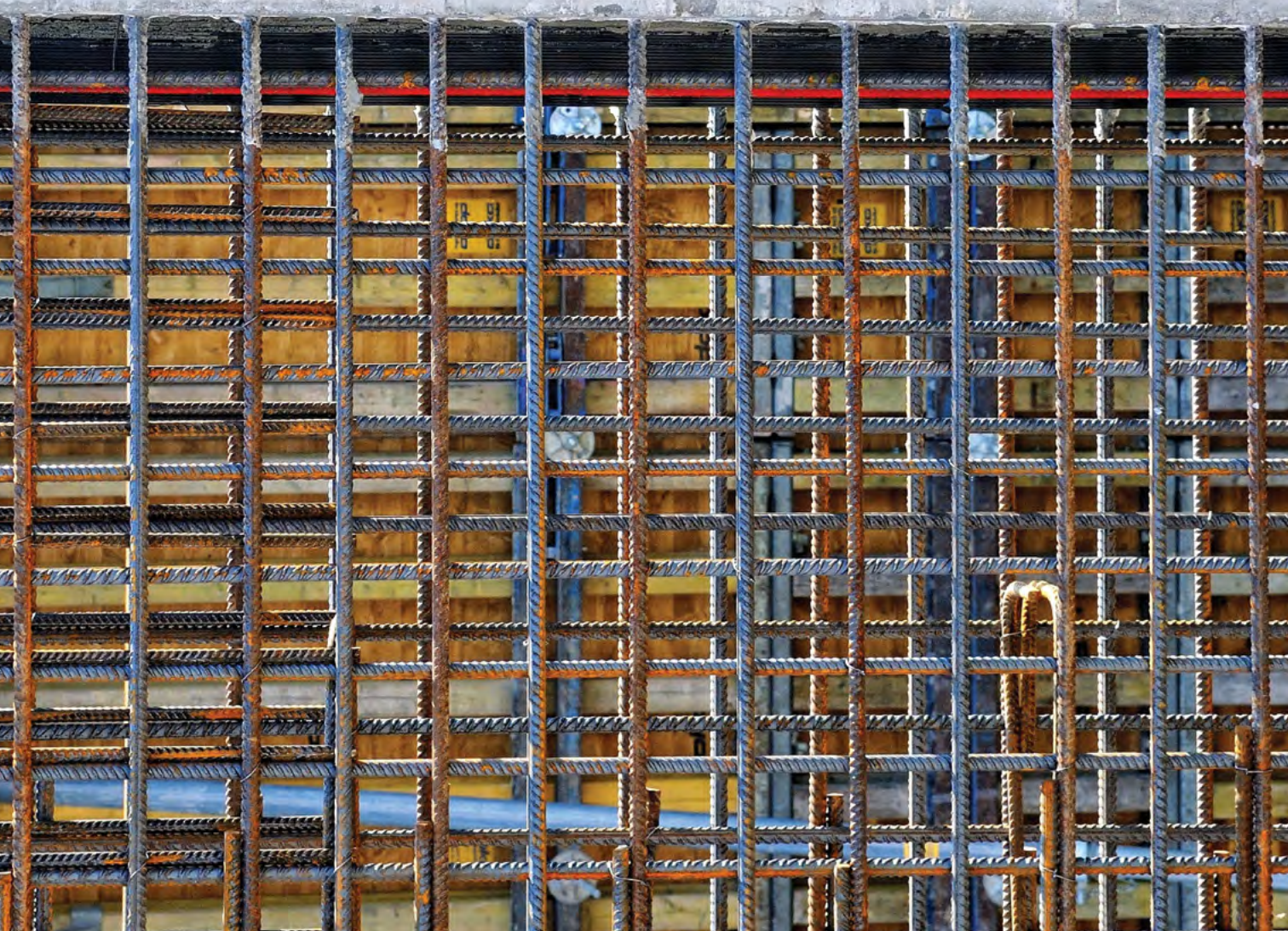
Visit us at SOUTHWIRE.COM to learn more

Connect With Us

Build a Foundation for Safety

Product design, standards and maintenance form the basis of an electrical safety strategy to help protect workers and equipment.

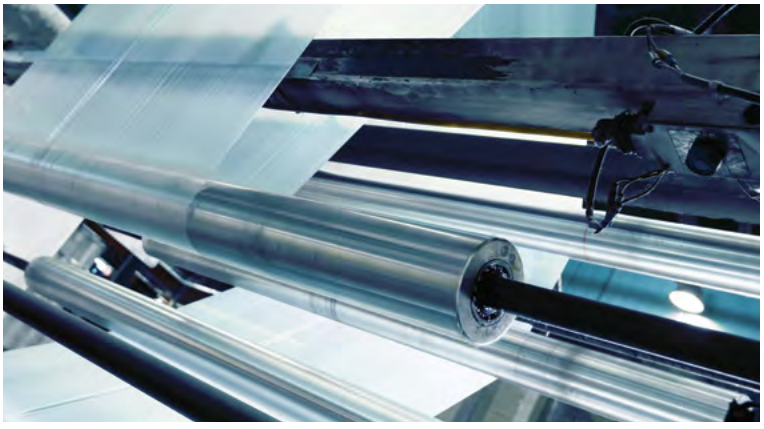
14



INDEX

18

26



32

DEPARTMENTS

FEATURES

ADDITIONAL RESOURCES

EBOOK

2021 Motors & Electrical Systems eBook Released

Download our 2021 Motors & Electrical Systems eBook to learn how to optimize drive performance; use one VFD to control multiple motors; mitigate arc flash hazards; use VFDs to improve pump efficiency; use integrated and stand-alone digital encoders; and more.

https://bit.ly/21motoreleceb

INDUSTRY PERSPECTIVE

Trends & Advancements in WWW Flow Monitoring and Control

Alan Vance fromt Endress+Hauser, answers questions about advancements in electromagnetic flowmeter technology that help plants ensure process efficiency and accuracy, water safety and verifiable regulatory compliance. Read the interview.

http://bit.ly/tjeh2021ip

WHITE PAPER

5 Steps for a Setting Up a Converged IT/OT SOC

Learn how to optimize a converged IT/OT security operations center (SOC); how to align with your existing cybersecurity abilities; how to improve visibility into assets, the network and processes in the OT environment; and more.

http://bit.ly/tj21wpclaroty

the journal

from Rockwell Automation and our PartnerNetwork™

AUGUST 2021, VOLUME 28, NO. 4

JOURNL-BR064A-EN-P

PutmanMedia®

1501 E. Woodfield Rd., Suite 400N
Schaumburg, IL. 60173, 630-467-1300

The Season for Learning

Theresa Houck
EXECUTIVE EDITOR

It's estimated that between five and 10 arc fault incidents occur every day in the United States, based on findings from the U.S. Bureau of Labor Statistics. As you know, electricity is a serious workplace hazard that can cause significant injuries and even death. Many workers would be surprised at how little electrical current can cause harm, and the myriad stories of injured workers are heartbreaking. In this issue of *The Journal*, we address four practices that can help you form the foundation of an electrical safety strategy to help protect workers and equipment.

You can also learn about electrical safety in our new "2021 Motors & Electrical Systems eBook," which provides useful information to help mitigate arc flash hazards. Also learn how to maximize drive system performance, and how to use one VFD to control multiple motors. Discover three ways VFDs can improve pump efficiency, and when to use integrated or stand-alone digital encoders. Also see how a ribbon maker cut manual machine monitoring by 30% by automating with measurement sensors and AC drives. You can download this free educational resource at https://bit.ly/21motoreleceb.

Speaking of educational resources, this year's Automation Fair® event is in Houston — it's a hybrid in-person and online event where exhibitors will demonstrate their technologies, and you'll also have virtual learning and networking opportunities. You can learn more about it starting on page 22.

I hope all these opportunities are helpful to you and that you are healthy and safe.

Until next time ...

News Noteworthy

Rockwell Automation Named Microsoft Partner of the Year Finalist

Company recognized out of more than 4,400 nominations in over 100 countries.

Rockwell Automation, Inc. has been named a finalist of the 2021 Microsoft Partner of the Year Award in its Internet of Things category. The company was recognized among a global field of top Microsoft partners for demonstrating excellence in innovation and implementation of customer solutions based on Microsoft technology.

The Microsoft Partner of the Year Awards recognize Microsoft partners that have developed and delivered outstanding Microsoft-based solutions during the past year. Awards were classified in various categories, with honorees chosen from a set of more than 4,400 submitted nominations from more than 100 countries worldwide. Rockwell Automation was recognized for providing outstanding solutions and services for IoT.

The Internet of Things Partner of the Year Award recognizes a Microsoft partner that has designed, developed and deployed IoT solutions built on its intelligent cloud and edge innovations, such as

Azure, IoT and edge devices with their customers. These solutions are helping companies quickly improve their business by increasing visibility into their digital assets, such as where they are at a given time or predicting maintenance required to ensure zero downtime. As a result, they can drive business results and grow customer value.

Littelfuse Sponsors Women in Electronics

Chicago-based Littelfuse, Inc., a Technology Partner, has become a sponsor of Women in Electronics (WE), a nonprofit organization dedicated to the professional and personal development of women in the electronics industry. The partnership with WE is a resource to the Littelfuse Women's Initiative Network (WiN).

Established in 2017, WiN is an employee-driven resource group that seeks to enhance and support the development of women, specifically in technology fields, with an engaged global network of associates.

Claroty Launches Focus Partner Program

Industrial cybersecurity company Claroty, a Digital Partner, introduced its Claroty FOCUS Partner Program. The three-tier program is designed to align to and support its partners' differentiated business models and expand the ecosystem's ability to become trusted advisors on industrial cybersecurity.

The Claroty FOCUS Program includes a partner portal for streamlined, unlimited access to technical and business tools, training, collateral and guides, and other key resources. The program also includes partner tracks focused on IACS/ICS Vendors, managed security solutions providers, consultants and OT security integrators; and specializations for OEMs.

"Securing OT environments is a unique challenge that requires tools and skill sets that are tailored to the network activity and risks specific to them," said Rachael Conrad, vice president and general manager, Global Services Business at Rockwell Automation, a member of the program.

"As OT environments are being targeted more and more by threat actors, Claroty's partner program will help us work even better together to innovatively develop more ways to help support customers reduce their risk and minimize disruption."

PARTNERNETWORK BRIEF

ROSS Controls Celebrates 100 Years. Technology Partner ROSS Controls is celebrating its centennial anniversary. Founded in 1921, ROSS' cofounder, Charles A. Ross, designed and built a hand-operated poppet valve to keep a new steel tube piercing process operational following a devastating fire. ROSS continued to expand its valve offering for general automation applications with emphasis on poppet technology, which remains a core technology today. Located in Ferndale, Michigan, the company designs and manufactures pneumatic valves and control systems, and fluid power safety solutions and poppet valve technology.

ROSS 1921 - 2021 | ROSS™ Proud History → Inspired Future

PARTNERNETWORK BRIEF

nVent Acquires Vynckier Enclosures. Rockwell Automation Technology Partner nVent has acquired Vynckier Enclosure Systems, Inc. The Vynckier product line is now part of nVent's Enclosures business segment. Based in Houston, Vynckier produces high-quality nonmetallic enclosures, and has about 80 employees, primarily supporting the manufacturing process.

Rockwell Automation Announces First Diversity Officer

Rockwell Automation named Bobby Griffin to the newly created role of Vice President, Human Resources, and Chief Diversity, Equity and Inclusion Officer. He reports to senior vice president, chief people and legal officer Becky House.

Griffin leads a team responsible for designing a holistic diversity, equity and inclusion strategy that reaches employees, suppliers, and commercial and community partners. He works with senior leaders to operationalize the strategy, connecting it to the work the company does every day.

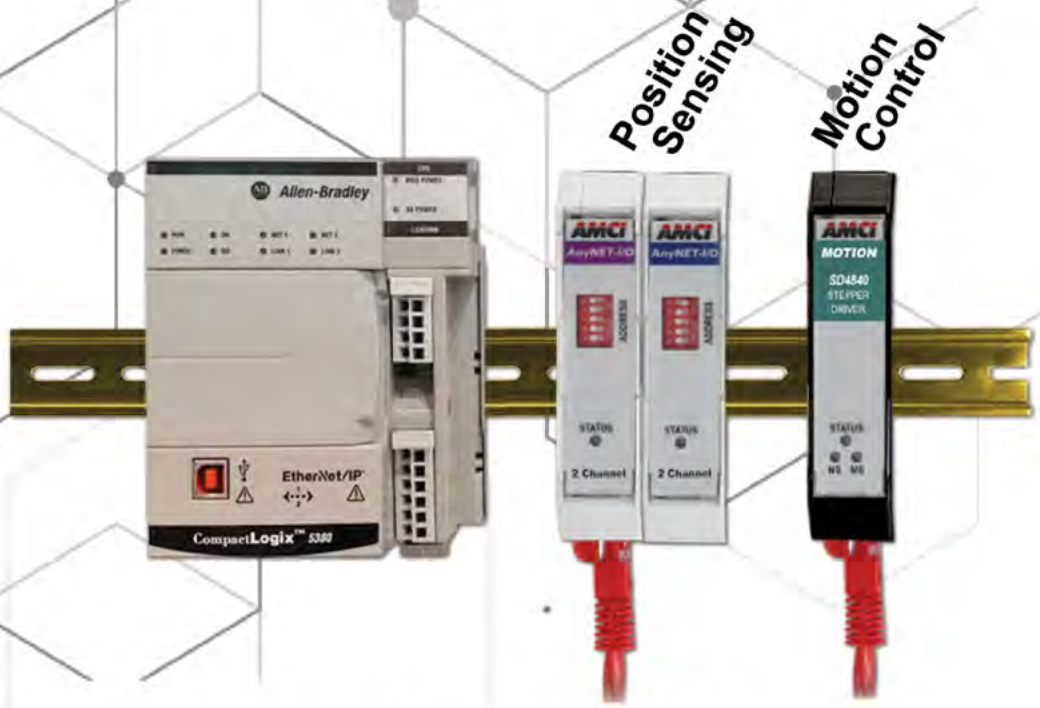
Griffin joins Rockwell Automation with more than 25 years of diversity and inclusion strategy and leadership experience at Fortune 500 companies, with a track record for improving organizational culture and building inclusive leadership capabilities in ways that also improve business outcomes.

He most recently served as vice president of diversity and inclusion at CBRE, a commercial real estate services company with more than 100,000 employees in more than 100 countries. Prior to CBRE, Griffin was global head of diversity and inclusion for Flowserve Corp. and global head of diversity and inclusion for Alcon Inc.

Bobby Griffin joins Rockwell Automation to fill newly created role of vice president, Human Resources, and Chief Diversity, Equity and Inclusion Officer.

PLC NETWORK PRODUCTS

for CompactLogix™ 5380



Position Sensing Resolver Interface
SSI Interface
PLS Controller

Motion Control Motion Controller
Integrated Stepper Drive/Controller

Specialty I/O Solutions for CompactLogix 5380
AMCI's networked specialty I/O modules provide versatile position sensing and motion control solutions for any PLC-based system; especially where no other solutions exist, such as with the 5380 CompactLogix. No additional software is required, as all programming is done using Studio 5000®. Call us at 860-516-8771 or visit www.amci.com to learn more!

SILVER
Technology Partner
A ROCKWELL AUTOMATION PARTNER

PROUDLY MADE IN THE USA

AMCI ADVANCED MICRO CONTROLS INC.

Migration is easy when you have the **right tools** and **support**

What if you can achieve better system performance, increased capacity, improved productivity, and enhanced security to meet the growing demands of smart manufacturing?

Our **SLC™ 500 to CompactLogix™ 5380 control system migration** is the right option for you. And, we can help you along your migration journey with the

- **Right plan:** Modernization and conversion services to help you strategize
- **Right tool:** Easy-to-install 1492 I/O wiring and conversion system to reduce I/O wiring time and effort
- **Right product:** CompactLogix 5380 and Compact GuardLogix® 5380 controllers and Compact 5000™ I/O

Take your next step to meet more application requirements in multiple industries with the modern technology options of CompactLogix 5380 standard and safety control systems.

Step forward to **rok.auto/slctocompactlogix**

Allen-Bradley
by ROCKWELL AUTOMATION

PARTNERNETWORK BRIEF

Southwire Building New Plant. Southwire, a Rockwell Automation Technology Partner, is constructing a copper-rod manufacturing plant in Carrollton, Georgia. It will feature an SCR-9000S copper rod system to replace its 40-year-old manufacturing operation. Production should begin by the end of 2022. The new, 100,000-ft.2 facility will be located on the same property as the existing manufacturing plant and will run on renewable electricity. When the project is completed, the current system will be decommissioned.

RACO Earns IIoT Product of the Year Award

Technology Partner RACO Manufacturing received the 2021 IoT Evolution Industrial IoT Product of the Year Award for its AlarmAgent from IoT Evolution World, a publication covering IoT technologies. AlarmAgent allows users to monitor their critical infrastructure in a cloud-based environment.

AlarmAgent features custom reporting, simple setup templates, OPC data integrations, and a straightforward user interface. Its triple-redundant security keeps data secure while remaining readily accessible. The system serves numerous industrial monitoring and alarm applications and industries.

Build a Foundation for Safety

Product design, standards and maintenance form the basis of an electrical safety strategy to help protect workers and equipment.

Safety continues to be at the forefront of industrial applications. However, a high frequency of serious electrical injuries and fatalities still occur around electrical equipment. In addition to the harm they do to workers, they also result in high monetary losses associated with damaged property and production losses.

Foundation for Safety

The need for guidance in promoting safety of both people and property through effective electrical equipment maintenance was identified decades ago. Around 1968, the National Fire Protection Association® (NFPA®) Board of Directors authorized the formation of a new NFPA committee with representation from equipment manufacturers, installers, inspectors, users, maintenance contractors and engineers.

The group also included representatives from safety, labor and insurance organizations along with representatives of other National Electrical Code® (NEC®) and NFPA committees.

The committee's goal was "to develop suitable texts relating to preventive maintenance of electrical systems and equipment used in industrial-type applications with the view of reducing loss of life and property."

At the time the committee was created, failure to perform maintenance at regular intervals or where maintenance wasn't done properly on electrical equipment attributed to a high frequency of electrical accidents. These electrical incidents resulted in fatalities and serious injuries and had a high monetary impact due to loss of property and production.

The committee determined the best way to break down electrical safety information was to divide it into four topics:

1. **Product design or product standards.**
2. **Installation standards.**
3. **Maintenance recommendations.**
4. **Use of product instructions.**

Though this approach to electrical safety was first introduced in the late 1960s, it still provides good, foundational guidance for improving safety. By focusing on these four areas of electrical safety, you can feel more confident in your plan to reduce arc-flash incidents.

DOWNLOAD THE EBOOK

Motors & Electrical Systems

In the new 2021 Motors & Electrical Systems eBook, learn how to maximize drive system performance; use one VFD to control multiple motors; and mitigate arc flash hazards. Discover 3 ways VFDs can improve pump efficiency, and when to use integrated or stand-alone digital encoders. Also see how a ribbon maker cut manual machine monitoring by 30% by automating the accumulator station with measurement sensors and AC drives. Download it at **https://bit.ly/21motoreleceb**.

Published by *The Journal From Rockwell Automation and Our PartnerNetwork* magazine.

1. Product Design or Product Standards

Safety starts with product selection. Regulatory bodies such as the Occupational Safety and Health Administration (OSHA) and the NFPA both include detailed codes and regulations for electrical equipment installations. By selecting products designed to meet or exceed the safety standards you have selected for your facility, you can greatly increase worker safety.

2. Installation Standards

The purpose of the NEC is to provide practical safeguarding of people and property from electrical hazards. Meeting that goal requires a safe and appropriate electrical installation. Article 110, within the NEC, is focused on providing the specific details around an installation that's safe for not only the installers, but also the maintenance electricians who follow.

Every equipment vendor will provide specifics around the required methods for proper installation and electrical connections to their equipment, whether low voltage or medium voltage. Most will provide suitable spaces and grounding locations, to install the control and the line and load cable connections into a piece of electrical equipment or a line-up of switchgear or motor control centers (MCCs).

However, never assume the configurations are the same between vendors or even between equipment from the same vendor. Always refer to the installation section of the user documentation provided by the equipment vendor, for each piece of equipment.

Also, a good practice is to provide the installation details or sections from those documents to any contracted service provider before they provide a quote for the equipment installation. This sets specific expectations for a successful installation and provides the installation-specific details.

3. Maintenance Recommendations

Performing the correct maintenance on all the unique pieces of equipment is challenging. Equipment often can be various ages and versions and from varied suppliers, which can create confusion. To avoid arc flashes, it's important to follow the maintenance instructions for each piece of equipment in the facility.

Treating all pieces of equipment the same way will cause problems. For example, older equipment designs require very different levels of maintenance than the equipment of today. Below is an extract from a user manual circa 1950:

> *Oil-Immersed Contactor- MAINTENANCE*
>
> *The life of the oil and contacts depends primarily on the frequency of operation, and the amount of power interrupted at each operation. The presence of moisture, carbon and other foreign matter reduce the insulating qualities of the oil. Highly repetitive operations of the contactors will result in excessive formation of sludge, carbon and other contaminants. For average operating conditions, it is recommended that the oil and contacts be inspected every three months. At this time all operating parts and insulators should be wiped clean of carbon particles or other foreign materials. The contacts should be cleaned with a file or emery cloth to insure good contact. Once every six months, the oil should be filtered or replaced if excessively carbonized. New oil should have a dielectric strength of at least 22,000 volts as measured between (1) inch discs spaced 0.1 inch apart.*

Switching systems of today, of course, don't rely on oil as an insulating material. Nor do vendors recommend you clean contacts with a file or emery paper. However, even though the requirements and the time interval are clearly spelled out in the instructions provided by the vendor, rarely did that level of maintenance ever get performed.

Why? Because it effectively meant a full shutdown and extensive disassembly of the switching device every six months. The results where that oil fires were commonplace with many of these older style switching devices.

4. Use of Product Instructions

Selecting products designed to achieve safety standards won't be effective if operators disregard product-specific instructions. Just as it's important to follow specific maintenance instructions without generalizing, it's also important for operators to follow each products' instructions. Failure to do so increases the risk of dangers, such as arc flash incidents. An assumption on a simple maintenance item, such as the expectation that generic lubricants can be used generically across all vendor products, could inject significant equipment risk.

Focusing on these four areas for electrical safety information can help you feel more confident in your approach to helping reduce arc-flash incidents. ●

LISTEN TO THE PODCAST

Misconceptions About Shock Safety

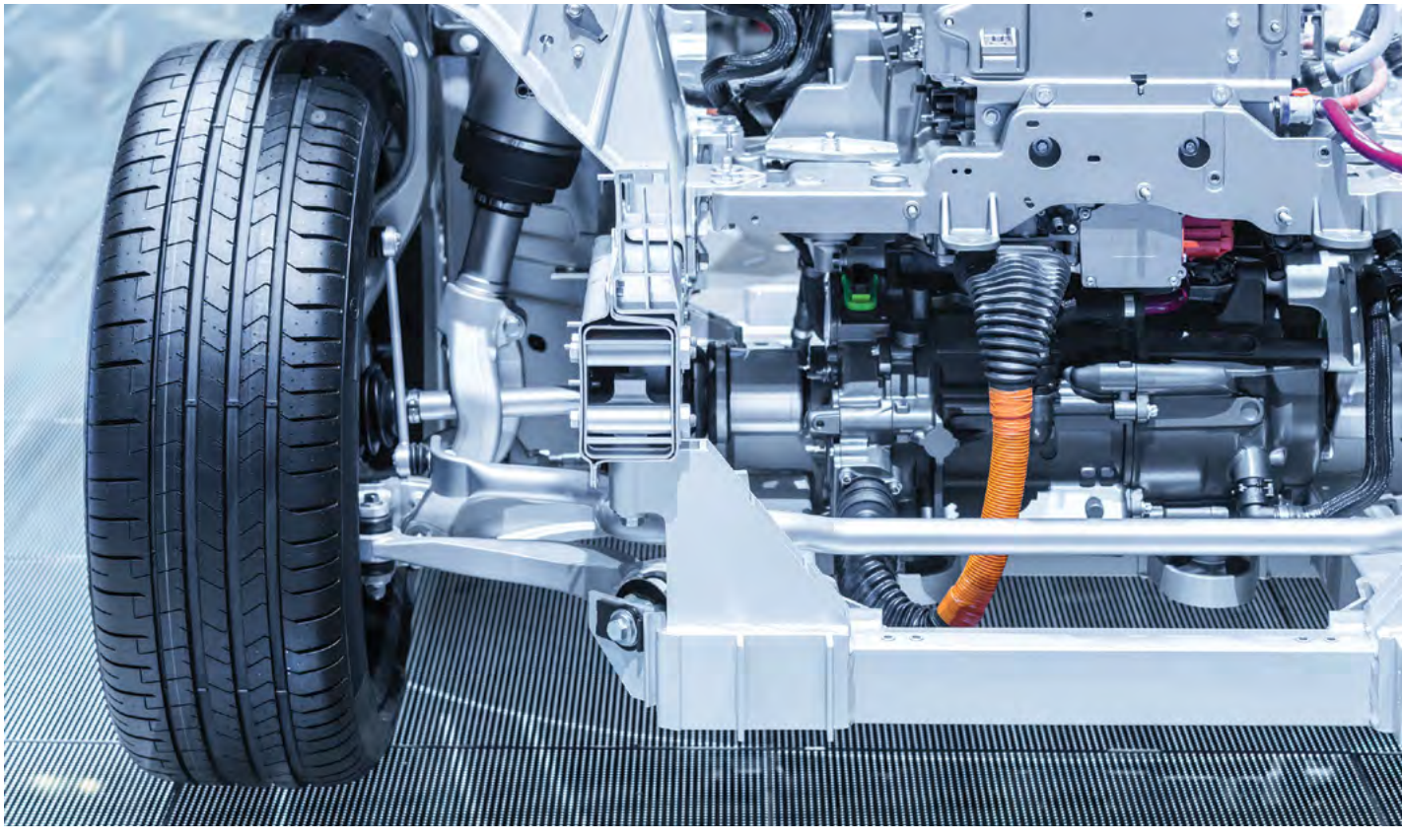
Shock is not arc flash. Did you know that in the United States, shock, as opposed to arc flash, is associated with all electrical-related fatalities? In *The Journal* magazine's Automation Chat podcast, "Misconceptions About Shock Safety," learn about the long-term effects of getting shocked and how NFPA 70E® and CSA Z462 updates have affected trends in safety incidents. Executive Editor Theresa Houck talks with Mark Pollock from Littelfuse Inc. and Terry Becker of TW Becker of Electrical Safety Consulting

Also learn about what contributes to a shock's severity; the gaps in electrical safety training that urgently need addressed; how industrial GFCIs work; why UL 943C is important; and more.

Listen on your favorite podcast app or on the web at **https://bit.ly/36YpHLA**.

Is Your Electric Vehicle Operation Ready for the Future?

Smart, scalable and flexible production operations can help electric vehicle makers keep up with demand and regulatory and technology changes.



ROCKWELL AUTOMATION

John Miles

BUSINESS DEVELOPMENT MANAGER

Electric vehicle (EV) companies are working hard to turn prototypes into road-ready offerings and stay ahead of a growing field of competitors. But in the race to market, company leaders should also think about how they're going to meet another challenge down the road — drastically greater demand.

EVs may represent less than 3% of all new vehicle sales in 2021, but according to a BloombergNEF electric vehicle outlook report, by 2040, it's estimated that almost 60% of all new vehicles sold will be electric.

Quite simply, if you can position your operations to keep up with this demand — and with EV technology changes — you'll be positioned for success. One way you can do this is by creating smart, scalable and flexible operations that are as nimble as they're productive.

Ready, Set, Grow

By creating agile and resilient operations, you can gain the innovation you need now and be prepared for growth in the future. Scalable information solutions that turn raw production data into useful insights are a key component. You can deploy them to address your specific needs today, and then scale them up to grow with your operations and needs over time.

For example, scalable analytics software can be deployed from the edge to the cloud to get the insights you need, as you need them.

Currently, your focus may be on applying analytics to improve efficiencies and deliver quality vehicles by tracking products, personnel and systems in your production process. Eventually, as demand grows, you can expand your use of analytics. That could mean using analytics software with machine-learning capabilities to optimize processes, streamline your supply chains and predict machine failures.

Manufacturing execution systems (MESs) and manufacturing operations management (MOM) applications can also address specific manufacturing challenges, and grow with your operations and their needs. You might want to start with a quality application to track, identify and alert you of machine or operator deviations, and later scale up to an enterprise MES software.

Design for Flexibility

Whether your operations need to pivot because of new powertrain technology, changing automotive trends or new regulations, your control solutions should enhance your ability to respond, not inhibit it.

A smart servo press allows you to configure as many motion profiles as you need. It also gives you the freedom to use the right motor type from the right motor supplier to get the specific speed, torque load or other characteristics required for your application.

Additionally, motion-control systems that use independent cart technology can help you more easily respond to demand and technology changes. Using software-configured move profiles, these systems can change functions with the push of a button to speed up changeovers and reduce downtime. They can also move small components or even full car bodies around a plant faster and more precisely than conventional mechanical solutions.

LISTEN TO THE PODCAST

How Wearable Computers are Changing the Workforce

In *The Journal* magazine's Automation Chat podcast, "How Wearable Computers are Changing the Workforce," Executive Editor Theresa Houck talks with Andrew Chrostowski from RealWear. Learn how ruggedized, head-mounted, hands-free wearable tablet computers are helping with efficiency, safety, and workforce challenges such as the retiring workforce and increased remote workers because of pandemic.

They also chat about the role of the connected worker, typical applications such as maintenance and operations, and what kind of problems wearable computers are designed to help with. Also see how your work will change as wearable communications become more common, how the role of wearable computers will expand in the next few years, and more.

Listen on your favorite podcast app, on the web at **http://bit.ly/tj21realpod**, or watch our chat on YouTube at **https://youtu.be/FsrfGrcXR2E.**

Stay Productive Through Changes

Disruptive technologies can help you manage through change by improving decision-making and maximizing efficiencies. With a digital twin — or a digital replica of your product, process or plant — you can test new products and configurations before you physically implement them to reduce downtime risks.

And with knowledge-capture tools that leverage augmented reality (AR) technology, you can capture step-by-step work instructions and share them across the enterprise to help cut training time, increase operator effectiveness and maintain compliance. Experienced operators can record procedures, note relevant locations and highlight key safety precautions. Then, new operators can use this recording in an AR environment to learn on the job.

Are You Ready?

Whether you're launching a new plant or transforming an existing one, you can be ready for the future with highly flexible and connected electric vehicle production operations. ●

DOWNLOAD THE EBOOK

Bring More Power to Electric Vehicle and Battery Production

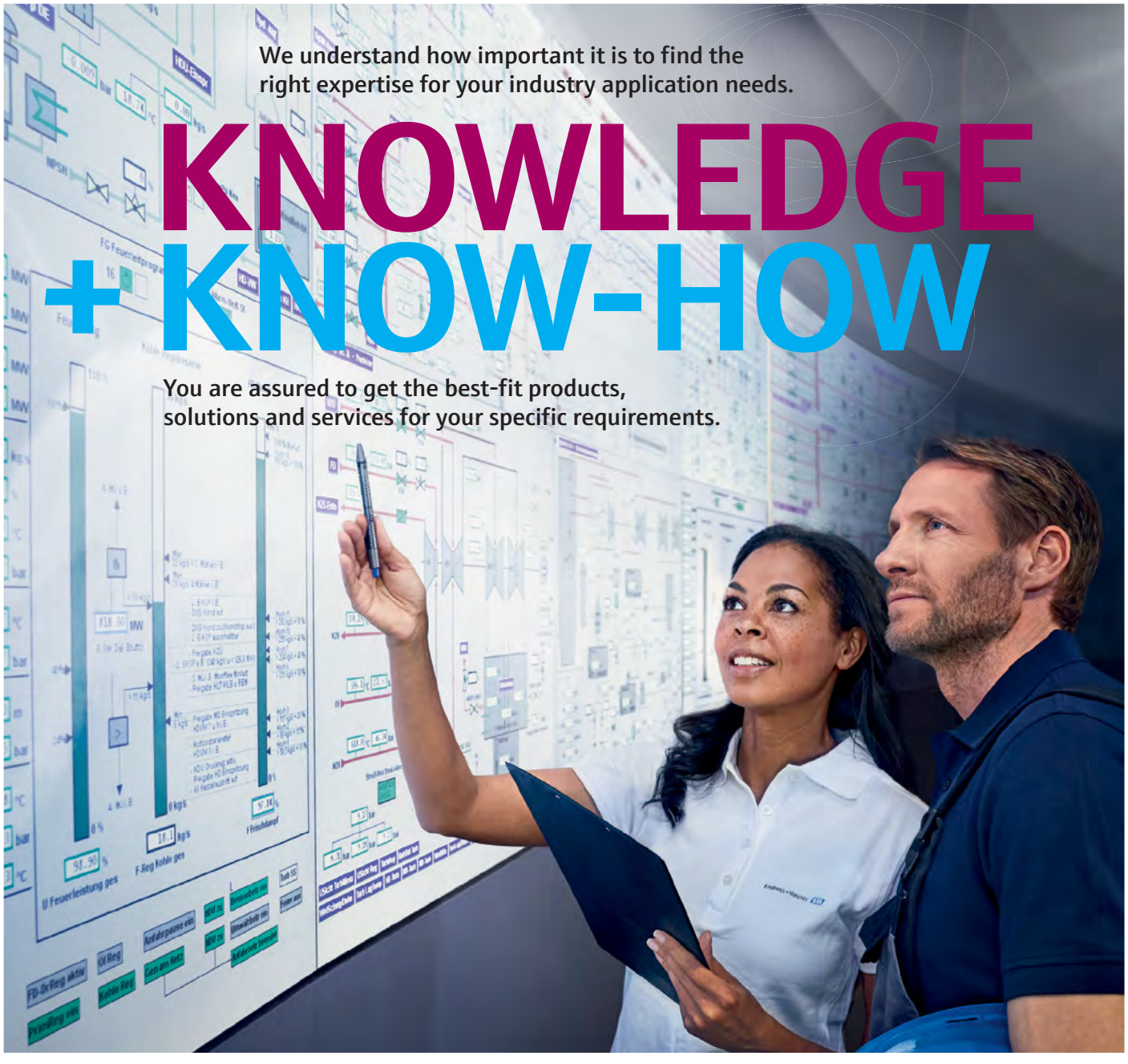
There's nowhere to go but up in the electric vehicle market. And companies that want to have a foothold in the future market must start by meeting the growing demand for electric vehicles.

To be productive and stay competitive, you need connected, information-driven operations to produce vehicles as rapidly as possible, with the lowest possible cost and risk. And you need agile production systems that allow you to quickly and effortlessly pivot if demand or technology changes. Download the eBook from Rockwell Automation at https://rok.auto/ev-battery.

We understand how important it is to find the right expertise for your industry application needs.

KNOWLEDGE + KNOW-HOW

You are assured to get the best-fit products, solutions and services for your specific requirements.



Micropilot FWR30 – The cloud connected radar level sensor

- Transparency – full and secure access to information on asset and inventory status, from anywhere at any time
- Simplicity – from procurement to operations, simplified commissioning, handling and processes
- Flexibility – suitable digital services defined by user needs, scalable from Netilion Value via Netilion Inventory to SupplyCare Hosting
- Reliability – precise measurement with wireless high-end 80Ghz sensor technology

Do you want to learn more?
www.us.endress.com/fwr30

Strategic Alliance
A ROCKWELL AUTOMATION PARTNER

Endress+Hauser
People for Process Automation

Houston Welcomes You to Automation Fair 2021

At this in-person and online event, exhibitors will demonstrate powerful IT/OT technologies, and you'll also have virtual learning and networking opportunities.

The 2021 Automation Fair® event is designed to help automation industry professionals deliver results that bring their operations into the future. With your health and safety top of mind, Rockwell Automation and member companies in its PartnerNetwork™, will host the event in-person in Houston, and also as an online hybrid experience. The event will take place November 9-11 in Houston, beginning with Perspectives and Process Solutions User Group events, and be available online from November 9 until February 2022 to automation industry professionals.

As always, the Automation Fair® event aims to help you better your manufacturing operations through numerous information-packed sessions and exhibits. Experts from Rockwell Automation and members of its PartnerNetwork program will share how you can use technology to get your products and services to market faster, reduce costs, use power and plant-floor assets more efficiently, and minimize risks in your manufacturing environment.

The Automation Fair® event includes opportunities for anyone involved in industrial automation, from implementors such as automation and controls engineers to executives and strategic management leaders in operations, IT and engineering.

The event will be a showcase innovation in industrial automation, IT/OT technologies, best practices and more. It will feature engaging keynote presentations, interactive hands-on labs and technical discussions, industry-centric panel discussions, and an exciting show floor showcasing innovations and solutions from Rockwell Automation and members of its PartnerNetwork.

More importantly, the event gives you the long-awaited opportunity to participate in person in networking activities with peers. The event is designed to provide everyone the opportunity to interact with one another, whether they are attending in-person or participating online via the hybrid experience.

What's New: In-Person and Online Hybrid Event

Offering an in-person and hybrid experience will allow for more industry professionals to experience the Automation Fair® event and extend the event experience for three months. The hybrid experience will include live streams from the in-person event, on-demand sessions, a virtual show-floor experience and more.

The show floor will feature a new immersive and curated experience, an exhibit that brings one customer's manufacturing story to life, interactive demos and activities, and more than 100 exhibits from Rockwell Automation and members of the PartnerNetwork.

Rockwell Automation

Automation Fair®

AT A GLANCE

Automation Fair 2021

November 9-11

Houston, Texas and online at
www.automationfair.com

The hybrid experience includes live streams from the in-person event, on-demand sessions, a virtual show-floor experience and more.

Get Inspired

To help deliver the results you expect in your IT/OT operation, the Automation Fair® event offers hands-on training sessions and thought-provoking presentations to help you conquer industry challenges. Rockwell Automation, PartnerNetwork members and other forward-thinking professionals will share their knowledge to help improve your expertise and skillset.

For example, more than 90 Products & Technology sessions will cover how the latest products, technologies, solutions and services can help operations meet the manufacturing environment of today, tomorrow and the future. Sessions presented by Rockwell Automaton are eligible for professional development hours.

In addition to these sessions, attendees can get hands-on experience with the latest technology and product enhancements. These hands-on, interactive training labs cover the portfolio of products and solutions from Allen-Bradley®, FactoryTalk® and compatible products offered by PartnerNetwork members.

And that's not all. The event will also feature 10 industry forums, including:

- **Automotive and Tire.**
- **Chemical.**
- **Decarbonization and Emerging Energies.**
- **Power and Energy.**
- **Food and Beverage.**
- **Life Sciences.**
- **Metals, Mining and Cement.**
- **OEM.**
- **Oil and Gas.**
- **Water Wastewater.**

PSUG Helps Process Industry

Rockwell Automation also will host the Process Solutions User Group (PSUG) on November 9 in person and online. You can join your peers during this event to gain greater insight into the latest process automation technologies.

Process control engineers, plant managers, operators, manufacturing IT professionals, integrators and EPC consultants will want to take advantage of the sessions highlighting innovative approaches, outstanding ROI and successes achieved through Rockwell Automation solutions. PSUG addresses the production challenges you face every day, including control strategies, optimization and process safety.

The event also will showcase how Rockwell Automation values feedback from its users to help drive the latest releases of the PlantPAx® distributed control system (DCS), batch and supporting process solutions. The event will include forums, technical and customer sessions, hands-on labs and keynote presentations.

For more information, visit www.automationfair.com.

Your Health and Safety First

Rockwell Automation is excited to reconnect with industry professionals to share new experiences and exchange ideas in a safe and comfortable environment. The company will continue to closely monitor COVID-19 conditions, and implement the appropriate actions to help ensure the upmost safety and comfort per CDC guidance for all attendees. Watch for announcements at www.automationfair.com.

The in-person event will take place in accordance with all current CDC recommendations, including:

- Enhanced cleaning and disinfecting processes throughout the venue.
- Upgraded ventilation.
- Complimentary masks.
- Numerous sanitation stations and supplies throughout the venue.
- Individually packaged snacks and beverages.
- Socially distanced seating options in session rooms when possible.

In addition, anyone attending the in-person event should follow these guidelines:

- If you're sick, please refrain from entering the event/facility.
- Masks will be available for your use. We ask that you wear a mask while attending the event.
- Please practice social distancing.

Attendance is Free

The Automation Fair® in-person and online event is free. Registration and more event details will be available in early September. Visit **www.automationfair.com** for registration information, or contact your local Rockwell Automation representative. ●

JOIN US VIA SOCIAL MEDIA!

Stay connected with the Automation Fair® event through social media

The Journal:
@thejournal_ROK

Automation Fair:
@automationfair

Facebook:
www.facebook.com/ROKAutomation

Facebook:
The Journal:
http://bit.ly/9NGXI

LinkedIn:
http://goo.gl/J5t9t

YouTube:
www.youtube.com/ROKAutomation

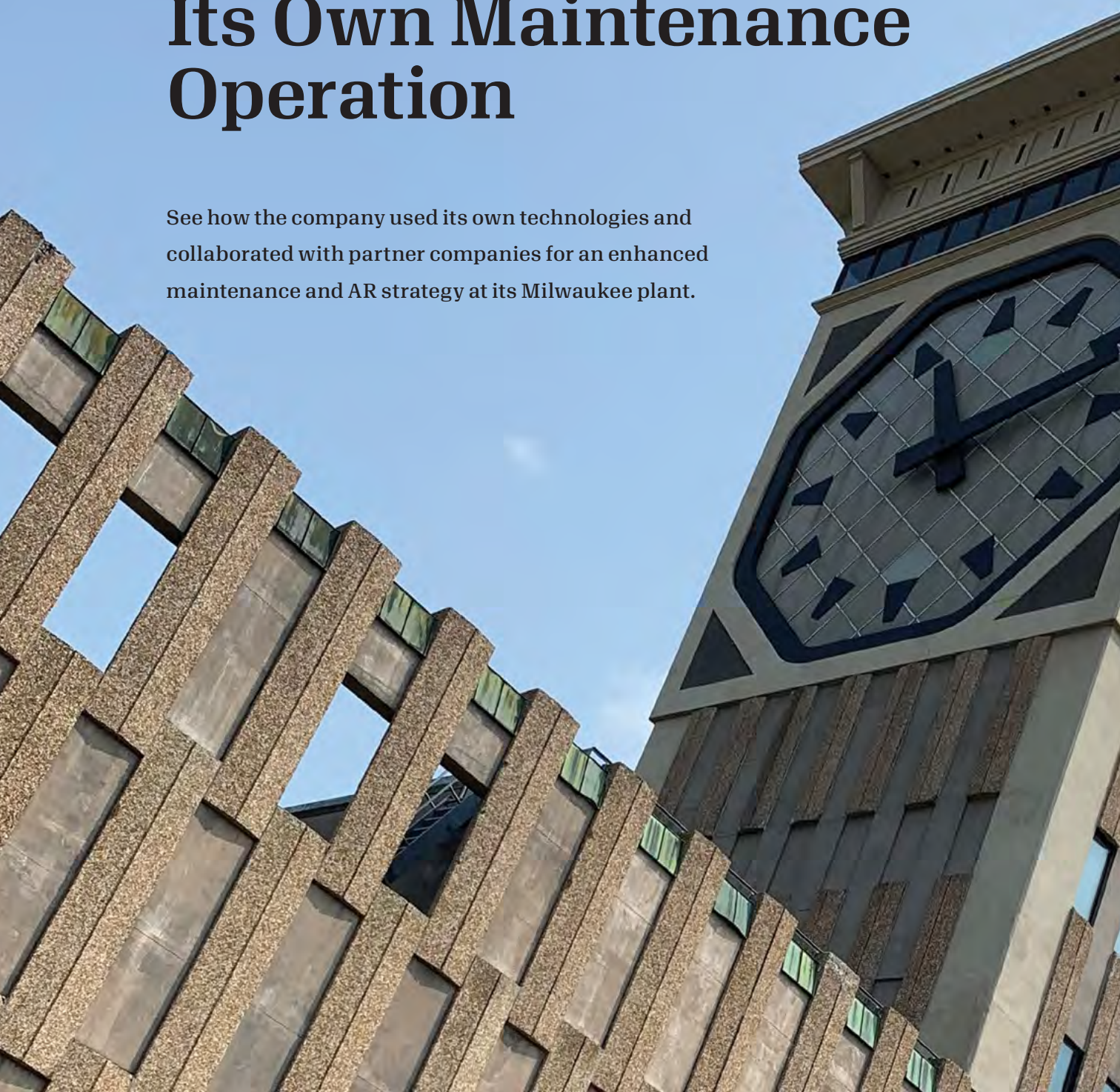
YouTube:
http://bit.ly/tjrayoutube

Instagram:
www.instagram.com/rokautomation

Caryn Melton
CONTRIBUTING WRITER

How Rockwell Automation Improved Its Own Maintenance Operation

See how the company used its own technologies and collaborated with partner companies for an enhanced maintenance and AR strategy at its Milwaukee plant.



> **The digital information for these machines is not only displayed in real time, but also is interactive, which has dramatically reduced the time I previously needed to perform maintenance issues.**
>
> Alex Fannin
> Digital Manufacturing System Engineer,
> Rockwell Automation

According to the National Association of Manufacturers' (NAM's) most recent outlook survey, attracting and retaining a quality workforce is one of the top challenges the manufacturing industry confronts. This industry faced a labor shortage exacerbated by the aging of the manufacturing workforce and gradual retirement of the baby boomer generation — as of 2017, nearly one-quarter of the sector's workforce was age 55 or older.

Additionally, 97% of respondents reported that they feared losing institutional knowledge when older workers depart. The study also examined the innovative approaches manufacturers can use to extend older workers' productivity and help transfer institutional knowledge to the next generation.

Manufacturing jobs are becoming more complex, including maintaining high-tech plant equipment. To verify a transfer of knowledge between senior workers who have their sights on retirement and new hires, manufacturing companies are executing a variety of tactics, including implementing augmented reality (AR).

Rockwell Automation, a global industrial automation and digital transformation provider, is a company doing what it asks others to do — walking the walk, not just talking the talk. For example, company leaders recently implemented new AR technology in its own operations to address complex maintenance issues with the new workforce in its Milwaukee, Wisconsin plant that manufactures Allen-Bradley® 100C contactors.

IMAGE BY MARIO R. MARTIN 2021.

Closing the Knowledge Gap

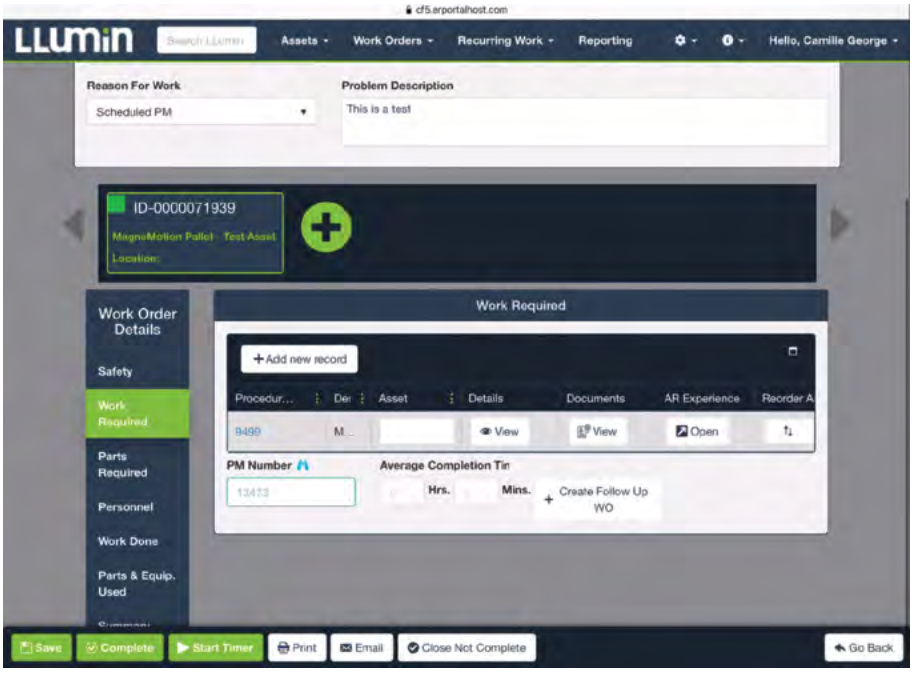
Because of the procedural complexity of equipment repairs at this Rockwell Automation facility, newly hired technicians aren't knowledgeable about the machines' intricacies. Maintenance workers who have been with the company for many years — some for their entire careers — hold this information.

"Our maintenance procedure execution is fragmented and ineffective," says Camille George Suarez, manufacturing engineer associate. "We know it's imperative to find a solution to close this knowledge gap."

Additionally, technicians train on the equipment's maintenance procedures by reading the user manuals. Following the written instructions while performing maintenance can be confusing, and the manuals' drawings might not reflect the actual equipment accurately.

Collaborating for a Solution

Rockwell Automation leaders knew they needed an asset management strategy that included implementing technology to overcome this knowledge gap. They also wanted a solution to increase productivity, lessen errors and save money.



LLumin's READYAsset software allows a work order to launch the augmented reality program in PTC's Vuforia platform. It helps improve communications between operators and maintenance personnel at the Rockwell Automation Milwaukee plant.

The Rockwell Automation Operations and Engineering Services' Digital Manufacturing and Innovation team decided to collaborate with its Technology Partner LLumin and its Strategic Alliance Partner PTC. After assessing the challenges, the partner companies recommended using the FactoryTalk® InnovationSuite Vuforia® AR solution, integrated with LLumin's READYAsset asset management software.

READYAsset already integrates with the Rockwell Automation FactoryTalk ProductionCentre® MES suite, adding more efficient communications between operators and maintenance personnel. So, adding another technology integration touchpoint was straightforward.

The AR solution works with the asset management software to help Rockwell Automation:

- **Manage production assets more effectively.**
- **Perform proactive maintenance.**
- **React quickly to potential problems that could lead to downtime.**
- **Make certain critical assets, tooling and the manufacturing operations continue uninterrupted.**

While the AR software can work on any of the plant's equipment, Rockwell Automation is using it specifically on its MagneMotion and iTRAK track machines, intelligent motion systems designed to improve productivity. The 3D AR experience goes step-by-step to highlight how each part should be assembled. Because of this visual assistance, the technicians can learn maintenance procedures more easily.

These visual directions also do away with confusion that written manuals can cause, because technicians can see exactly what they need to do, leaving less room for interpretation. And using the AR takes less time than flipping back and forth through multiple pages

THE **FIRST** UL 943C LISTED INDUSTRIAL GFCI FOR PEOPLE PROTECTION

LITTELFUSE INDUSTRIAL SHOCK BLOCK® GFCI

The Industrial Shock Block is a Class C (480 V) and Class D (600 V) GFCI for personnel protection in industrial applications, UL Listed to UL 943C. It is also now available as a Class A GFCI for 3-phase 208 V circuits, Listed to UL 943. It detects leakage current and interrupts power up to 100 A. Built-in overcurrent protection (50 kA) eliminates the need to install separate short-circuit protection, saving space and cost. The Industrial Shock Block GFCI can be mounted to the wall or to the Shock Block Cart and Mounting Frame for maximum flexibility.

Typical Applications

- Construction
- Oil and Gas
- Manufacturing
- Food and Beverage
- Agriculture
- Water and Wastewater
- Wet Environments
- Commercial Kitchens

For more information, visit **Littelfuse.com/Shock-Block-GFCI**

Accessory:
Industrial Shock Block Cart & Mounting Frame

Littelfuse®
Expertise Applied | Answers Delivered

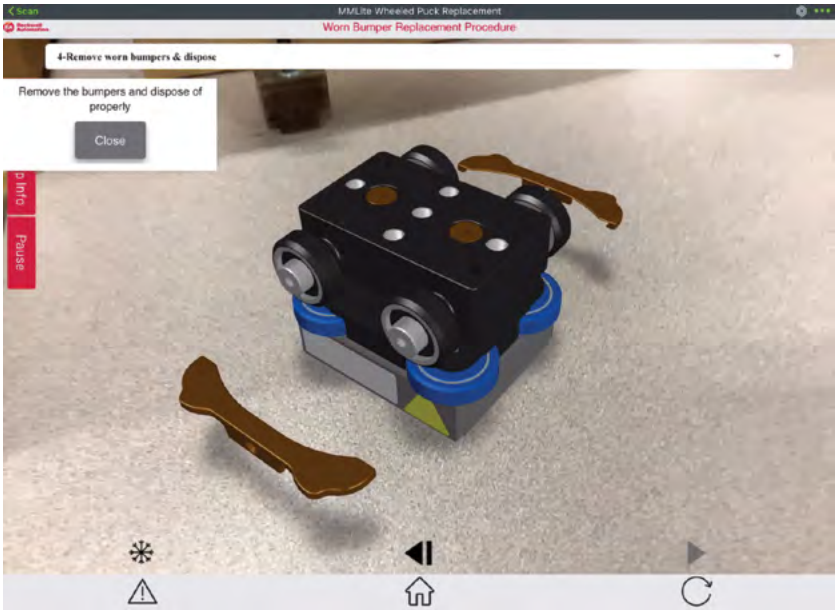
BRONZE
Technology Partner
A ROCKWELL AUTOMATION PARTNER

Industrial
SHOCK BLOCK®
LITTELFUSE® Products

of instructions to get a full picture of the equipment.

The asset management software also provides maintenance management and operations staff with an automated tool that can schedule inspections and preventive maintenance, coordinate inventory management and work orders, and retrieve recorded asset history. Technicians can perform work with instructions on any handheld device, enter how long it takes to complete work orders, filter through past work orders and close out of the system. All the information is recorded in real time, so managers can access the information instantaneously.

"The digital information for these machines is not only displayed in real time, but also is interactive, which has dramatically reduced the time I previously needed to perform maintenance issues," adds Alex Fannin, digital manufacturing system engineer.



Rockwell Automation is using the augmented reality solution on its MagneMotion and iTRAK intelligent motion systems. Maintenance personnel use any handheld device to read interactive AR instructions in real time.

Fast and Measurable Results

The system was designed and implemented within five weeks, and Rockwell Automation anticipates just a four-month return on investment (ROI). Additionally, with the integrated and guided AR maintenance procedure experience, technicians are performing maintenance work 15% faster, maintenance training has decreased by 50%, and the company can reduce the mean time to repair (MTTR) when performing scheduled maintenance.

The system is designed to streamline processes and allow for regularly scheduled maintenance of the MagneMotion and iTRAK machines. To that end, the asset management software is sending all maintenance work orders integrated with AR-guided work instructions and procedures. This increases efficiency by getting rid of the delays that accompany misunderstanding of procedures or instructions, reducing the time these machines stay off-line.

"We noticed an improvement in work performance immediately," says Shawna Filipenko, senior manufacturing engineer. "The AR-guided work instructions are very visual and provide for less error or ambiguity, which helps improve overall quality and accuracy in a repeatable manner."

Using AR and asset management software is helping technicians be effective at a variety of maintenance tasks quickly, while reducing on-boarding time and skills gaps with new hires.

Maintenance plays a vital role in Rockwell Automation plants and has a direct influence on performance, productivity and product quality. Walking the walk by using its own solutions, the newly integrated and AR-guided maintenance procedure experience is advancing the facility's maintenance activities. ●

LLUMIN Based in West Springfield, Massachusetts, LLumin is a Technology Partner in the Rockwell Automation PartnerNetwork™ program. The company offers a comprehensive suite of mobile-ready Enterprise Asset Management (EAM) software for industrial plants, facilities and municipalities.

PTC PTC is a Rockwell Automation Strategic Alliance Partner. The PTC and Rockwell Automation alliance uses a sophisticated integrated information solution with technology and industry experience from both companies. The integration of IT and OT technologies combine ThingWorx® industrial connectivity, and Vuforia® augmented reality (AR) platforms from PTC with FactoryTalk Analytics, FactoryTalk ProductionCentre MES, and industrial automation platforms from Rockwell Automation.

CONTROL STATION

Making PID Controller Tuning *EASY!*

DirectConnect™

Loop-Pro connects seamlessly with PlantPAx and other automation solutions from Rockwell Automation.

Ease-of-Use

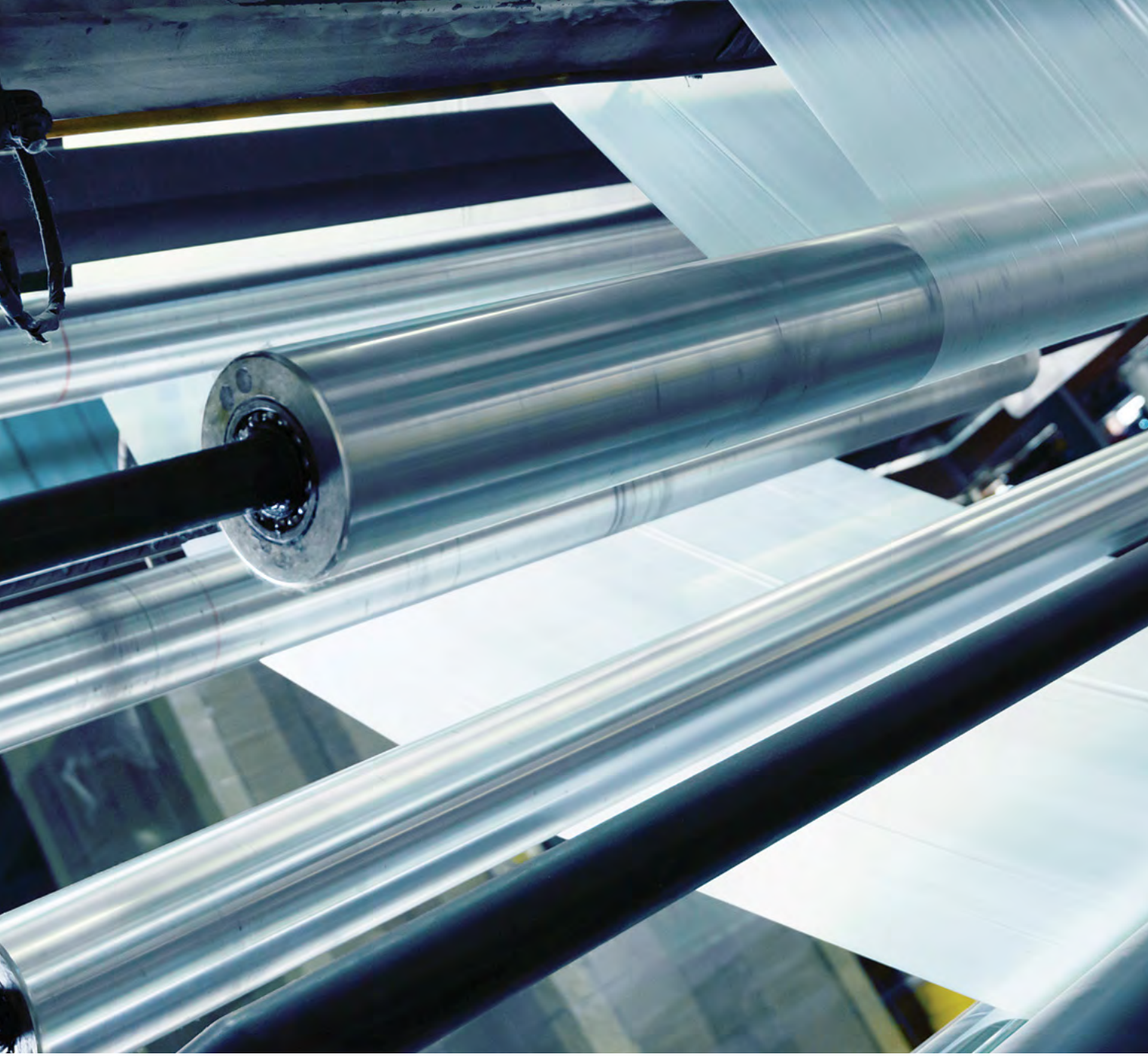
Loop-Pro's 6-step process enables users to quickly and consistently tune loops using open- or closed-loop data.

NSS Modeling™

Loop-Pro is the only software proven to accurately model noisy, oscillatory, and long Dead-Time data.

For more information about Loop-Pro, join Control Station at Automation Fair or visit us at controlstation.com

SILVER Technology Partner
A ROCKWELL AUTOMATION PARTNER



How Protective Relay Data Can Help Cut Costs

Relays monitoring devices in your power system can help predict and prevent problems, such as motor failure, to increase efficiency and ease workload.

SCHWEITZER ENGINEERING LABORATORIES INC.

Mark Zeller

SALES AND CUSTOMER SERVICE DIRECTOR

Modern process control systems for industrial plants use both analog and digital sources of information to perform routine functions such as protection and automation. Data collected and intended for one purpose often can provide substantial benefits when applied in other ways.

For example, consider modern digital protective relays. They gather data for electrical protection, sampled at frequency rates as high as 1 MHz, that is used to quickly detect atypical electrical conditions and deactivate a problematic section of circuit. Most of the information not being used for protection is discarded.

By unifying the process control and power distribution systems, however, that data instead can be used in operational control and troubleshooting to improve reliability and reduce downtime.

Data Easy to Access

Reading operational data from a digital protective relay can provide invaluable process evaluation information at no or a low cost. Most modern relays include some form of communication interface, so collecting data from them often is as easy as configuring the port and defining the information packets to the preferred communication protocol, including common choices such as Modbus™, IEC 61850 and EtherNet/IP™ as used by Rockwell Automation products.

Collecting and communicating this data has no impact on the relay's protective functions. Modern relay architectures include enough processing power to separate protection and communication functions. They're designed deliberately to operate protection on a fixed scan rate entirely independent of communication processing. Sharing relay information with colleagues in process control or operations is encouraged wherever and whenever possible.

As an example, industrial facilities typically separate the electrical protection system from the operational distributed control system (DCS) responsible for controlling manufacturing processes. The energy used to manufacture the end product is tied directly to the electrical energy delivered.

As a result of this connection, examining the power delivery system can reveal many process issues. The intelligent electronic devices (IEDs) tasked with protecting the power system are the ideal place to gather such information.

While DCS systems scan process inputs several times a second, IEDs scan the power system thousands or even millions of times per second. This improved resolution can identify abnormalities and warn the DCS of impending problems quickly — with earlier detection providing more options for resolving issues before they turn into unscheduled downtime.

The information available in modern protective relays can help:

- Detect pending failures on aging or damaged cables with incipient fault detection.
- Monitor the power system for stray harmonics indicating misfiring adjustable frequency drives.
- Alarm overloaded circuits before they trip, allowing time for operations or automatic load shedding.
- Capture important data before, during and after electrical issues to find the downtime's root cause.
- Detect downed conductors even without short-circuit currents.
- Detect and alarm for motor damage from excessive starting or loading, including broken rotor bars.
- Alert operations when motor loads drop below normal, signaling process issues such as pump cavitation.
- Predict motor trip times by monitoring motor load and alerting operations before the motor shuts down.
- Indicate process changes by measuring motor starting times and allow the scheduling of repairs before failure occurs.

LISTEN TO THE PODCAST

How to Use Protective Relay Data to Cut Costs

In *The Journal* magazine's latest Automation Chat podcast, "How to Use Protective Relay Data to Cut Costs," Executive Editor Theresa Houck chats with Mark Zeller from Rockwell Automation Technology Partner Schweitzer Engineering Laboratories (SEL).

They discuss how your existing digital protective relays gather and use data for electrical protection in manufacturing plants, and how to download the data. Also see examples of how the information can help you monitor health of devices connected to your power system, and thus predict problems before they occur, such as a circuit or motor failure.

Listen on your favorite podcast app, on the web at **https://bit.ly/tj21podsel**, or watch their chat on YouTube at **https://youtu.be/ny1NukGKfaA**.

How It All Works Together

Collecting and analyzing motor information helps illustrate how operational data can impact plant processes. For instance, the duration of time a motor requires to reach operating speed can be an excellent indicator of process health. Extended start periods — durations longer than the average start time — offer a glimpse into the process.

By monitoring the motor parameters under normal operating conditions, later comparisons have foundational data from which to evaluate the system for process changes.

Process instrumentation such as flow rate, temperature, consistency, and valve and damper position can be recorded during operation and then checked later for validity using a simple matrix. This validation and testing system relies heavily on certain motor parameters gathered from the relay, such as current and horsepower, with basic process analysis capable of predicting most variations.

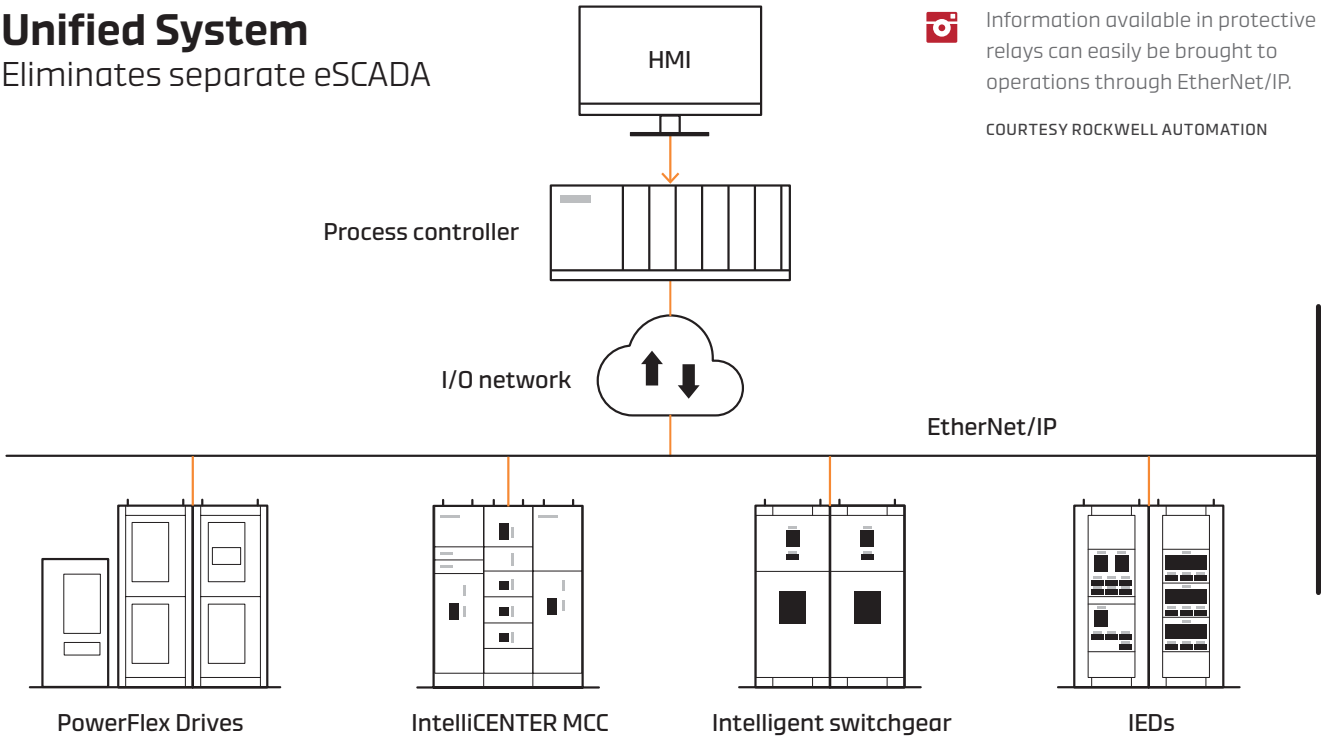
This type of evaluation system provides significant benefits in that it can alert operators to issues before they cause equipment failure — meaning operators can recalibrate feedback systems, maintain positioners before failure and conduct maintenance that requires a process shutdown during the next available outage.

Current feedback is some of the most commonly used motor information. Pump mechanical issues, process consistency variations, valve position problems or process pipe blockage often are indicated by higher-than-average motor start current. Current that's lower than normal, on the other hand, can indicate issues with couplings, pump shaft or impeller damage or a lack of pumping material.

By evaluating the current signature, operators can predict problems reliably, including pump cavitation, loss of flow, variable-frequency drive issues, bearing problems and even belt or coupling misalignment. Many predictive maintenance programs use this type of signal analysis to monitor the signal emitted by the bearings and evaluate rotating equipment condition.

Performing this analysis from within the protective relay offers a host of advantages, including greater available processing power, existing access to the current signal, continuous availability and operator alarming capability. Predictive maintenance

Unified System
Eliminates separate eSCADA



Information available in protective relays can easily be brought to operations through EtherNet/IP.

COURTESY ROCKWELL AUTOMATION

technology is yet to be fully explored as a key component in the protection and monitoring of an AC motor.

Use Existing Operational Data to Achieve Savings

Important operational data can be gathered from protective relays to reduce the lost time, money and production associated with unexpected equipment failures. As relays are a vital component already installed within most given systems, extracting information from them is an easy, low-cost operation.

To take full advantage of the available data, it's important to know what information can be extracted in the first place and how to apply it best to model and evaluate process control changes. These process-improvement and cost-saving capabilities will only increase for process control and operation engineers as more reliability-based information becomes available on future iterations of protective relays.

Even now, electrical protective relays can offer insights into operating characteristics, key equipment statuses, and maintenance indicators for use in operations and maintenance systems. Those systems can:

- **Read key equipment data from the relay and display statuses or generate work instructions.**
- **Reduce unscheduled downtime from equipment failures by recognizing failure warning signs.**
- **Improve maintenance effectiveness by scheduling maintenance on a condition basis instead of a time basis.**

This additional information shifts operations and maintenance activities to be proactive, rather than reactive, to ease overall workload, lower costs and improve efficiency by focusing efforts where they can provide the most benefit.

Ultimately, using existing relays to establish communication channels between DCSs — or maintenance work systems — provides vital information at little or no cost. ●

SCHWEITZER ENGINEERING LABORATORIES INC. Based in Pullman, Washington, SEL provides power system awareness, protection and automation solutions, from advanced IEC 61850 GOOSE power management to secure OT high-speed networks. It provides protective relays (including arc-flash detection), controllers, computers and meters.

HMS NETWORKS

New Communicator 2.0: Connecting Devices & Machines Into the Future

The new generation Anybus Communicator from HMS Networks uses 20 years of experience in this new powerful package. A line of high-performing gateways for connecting devices and machines to industrial networks. Security, high performance and industrial reliability using the latest Anybus technology.

https://bit.ly/2W03w4g

ADVANCED MICRO CONTROLS INC.

Integrated Servo Motor Offers Safety Features

AMCI's SV160E2 integrated servo motor includes Safe Torque Off, enabling increased safety across applications, and preventing unintentional starting or motion. It reduces system costs by eliminating the need for separate components. Move commands are programmed through Studio 5000®. EDS files and sample programs help streamline initial setup and programming. It features dual port EtherNet/IP™ networking with DLR, built-in web server, absolute encoder and virtual axis follower.

http://bit.ly/2mvdulf

HARDY PROCESS SOLUTIONS

New Hardy Caseweigher for QA with Rockwell Automation PLC

Hardy's all new Caseweigher machine is designed for simplicity using off-the shelf components and a CompactLogix® PLC control platform with Studio 5000® to use data across The Connected Enterprise. Hardy's 4050CW Checkweight controller samples at 4,800 times per second to provide extremely accurate and fast weight data with a full statistics package.

https://bit.ly/3znJMXc

SOFTING INC.

tManager CompactLogix PLC module

tManager™ is the only CompactLogix™ PLC module that connects the PLC directly to your enterprise SQL database, favorite analytics package, dashboard projects, track & trace, recipe download, high-speed sorting, and quality monitoring app. Eliminate the connectivity server in the middle, eliminate custom coding, and eliminate protocol conversion. Use tManager, the built-for-purpose PLC in-chassis connectivity module for bidirectional data movement between IT and OT.

https://bit.ly/3AQFhVl

SYTECH INC.

XLReporter from SyTech

XLReporter gets the information you need, in the report you want with no programming. Built with Microsoft Open Office standard, it is the first reporting platform in industry to deliver workbook technology to an automated environment. Within minutes, reports are ready to view/email as workbooks, PDF and web pages. It interfaces to FactoryTalk® Linx Gateway, FactoryTalk Historian SE, PanelView™ Plus, OPC and databases. For FactoryTalk View SE, access to the ODBC data logs and File Data Sets is included.

www.SyTech.com

Industrial Ethernet Tester

Technology Partner **Fluke Corp.**'s LinkIQ-IE Cable+Network industrial Ethernet tester helps find network failures quickly using a touchscreen interface. A single-test approach automatically provides measurements based on what's at the other end of the cable.

The tester shows an open cable's length and pairing. If it's terminated with the supplied remote, the results show the maximum data rate the cable can support, up to 10 Gb/s. For a switch port-connected cable, the tester shows the switch name, port name, speed and duplex.

Pressure Instruments with Bluetooth Interface

Strategic Alliance Partner **Endress+Hauser**'s new Cerabar and Deltabar pressure and differential pressure instruments feature a user-friendly Bluetooth interface. The connectivity capability is designed to help ease operation and improve efficiency in regulatory control, safety and other systems.

The SmartBlue app includes guided operating sequences for parameterization and commissioning, bridging distances of up to 50 ft. Measuring points that are difficult to reach or in hazardous areas now are easy to maintain. There are no cables to connect. Real-time data from the pressure transmitter is easily available without the need for permits to open the housing, or for safety equipment to reach the instrument.

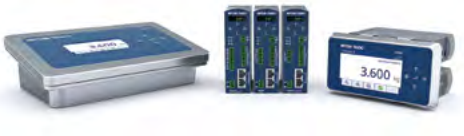
PRODUCT SPOTLIGHT

COMPACT AUTOMATION INDICATOR

Technology Partner **Mettler-Toledo**'s IND360 is designed to deliver precise, accurate weight to an automation network at 960 cycles/sec, boosting productivity. Advanced condition monitoring, heartbeat, and Smart5 NAMUR NE107 prioritized alarming helps validate quality.

Faster weight processing makes PLC/DCS operation more efficient. The indicator allows users to cyclically select and consume seven floating-point variables and scale status over PROFINET®, EtherNet/IP™ and ProfibusDP all in real time.

Faster PLC control facilitates increases in machine speed and throughput without sacrificing quality.

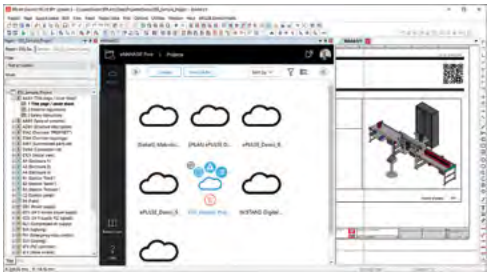


Cloud-Based Collaboration Software

Digital Partner **EPLAN Software and Services**' cloud-based EPLAN eManage is a cross-project collaboration platform. Users can upload to, share and work on EPLAN Platform projects in the cloud.

The systems within this cloud service help network control cabinet manufacturers and panel builders, OEMs and system integrators, and machine and plant system operators. They work together in a central project via eManage in roundtrip engineering.

Clear access rights and role assignments facilitate data security and provide project access flexibility. It supports digital implementation of cross-company review processes.



Adapter Grommets

Designed to be used with adapter system IMAS-CONNECT, Technology Partner **icotek** offers the new adapter grommets AT-FL and QT-AT-FL. The grommets serve as an interface for M23 square flange connectors.

The AT-FL serves the icotek KEL systems (KEL-U, KEL-ER, KEL 183 and KEL-FG). The QT-AT-FL works with the KEL-QUICK systems. The adapter grommets are inserted into the split cable entry frames. Built-in plugs or built-in sockets integrate directly into the cable entry by using the AT-FL/QT-AT-FL grommets.

All square flanges with a hole spacing of 19.8 x 19.8 mm are suitable.

Service Contract Digital Platform

The Rockwell Automation **My Services digital platform** is a self-service tool on the myRockwellAutomation.com portal designed to help users access their service agreements. It is an intuitive way for manufacturers to interact and manage Rockwell Automation LifecycleIQ™ Services.

On the portal, users can access My Services to view historical service tickets and contract details quickly to reduce time solving recurring issues; review service contract entitlements to verify technical support continuity; and perform advanced visual analytics when they have an Integrated Service Agreement.

PRODUCT SPOTLIGHT

TABLETOP ROBOT SERIES

Strategic Alliance Partner **FANUC**'s LR Mate 200iD/14L tabletop industrial robot can process or handle parts weighing up to 14kg. Ten models include ISO Class 4 cleanroom and wash-proof versions, each with various wrist speeds and reaches to accommodate limited workspaces.

A variety of intelligent options include robot vision and force-sensing functionality. The robot's slim arm and compact footprint minimizes interference to peripheral devices in tight spaces. It includes integrated 24VDC power, signal and air for easy end-of-arm-tool connection.

Cable Certifier

The WireXpert 500 certifier from Technology Partner **Softing** targets copper cabling up to Cat 6A standards. With its modular concept and unique licensing system, the unit is a versatile, cost-effective tool for cable system certification. Users can also easily upgrade units to certify copper cabling through Cat 8 or fiber optic cabling.

The certifier features Dual Control System, which equips both local and remote devices with a main processor and color LCD screen. The features also reduce the amount of walking a single user must do during troubleshooting, improving the testing efficiency for smaller, one-person testing projects.

LIFECYCLE IQ™ Services
by ROCKWELL AUTOMATION

Data-driven decisions through operational insights

Digital transformation. Modernization. Remote operations. Cybersecurity. We can help you navigate the complexities of your lifecycle journey and transform your ideas into reality.

Visit us at Automation Fair 2021 in the LifecycleIQ™ Services Booth #1319 to learn more.

Digital intelligence • Domain expertise • The power of the right partnership

CONSULTING SERVICES	PROFESSIONAL SERVICES	CONNECTED SERVICES	FIELD SERVICES	WORKFORCE SERVICES

LEARN MORE: rok.auto/lifecycle

IEC Industrial Relays

Rockwell Automation offers the **Allen-Bradley® Bulletin 700-EF IEC control relays** designed to save energy and simplify selection. They offer universal wide-range coils and are ideal for applications that involve switching heavier loads in industrial environments.

Four coil options cover control voltages from 24V to 500V, 50 to 60 Hz DC, making selection easier. These contactors save energy by reducing inrush apparent power (VA) by up to 68% and sealed VA by over 75% compared to standard, non-electronic coils and allow coil input terminals to be moved from the line to load side of the contactors without disassembly.

Universal Free-Stand Enclosures

Technology Partner **nVent** introduces the HOFFMAN brand Universal Free-Stand enclosure portfolio. It is designed to reduce overall project lead time while providing safety and reliability.

Panel builders and system integrators can start with simplified base enclosures and customize with accessories and modifications as needed. The bayable enclosures have multiple type ratings with accessories focused on safety and component mounting density to achieve faster design, modification and assembly.

The one- and two-door bayable enclosures allow easier, safer modifications and simpler handling in moving and installing multidoor enclosures of almost any configuration.

PRODUCT SPOTLIGHT

POWERFLEX 755T AC DRIVE ENHANCEMENTS

Allen-Bradley® PowerFlex® 755TL, TR and TM drives now come standard with corrosive gas protection and are tested under severe corrosive environment protocols. The drives also now have an embedded dual Ethernet port capable of gigabit speeds to give users smart device insights.

Several firmware updates enhance industrial control system security, maintenance resource optimization and energy usage. One such addition is CIP Security™, which helps prevent unauthorized connections and communications tampering, and provides data confidentiality.

Another firmware update improves the software-user interface for viewing and interacting with the predictive maintenance features.

Ground Fault Relay

The AGV ground fault relay from Technology Partner **NK Technologies** can detect faults to earth on the load side of a VFD. The VFD's carrier or switching frequency presents a challenge: The fault current will be detected at the base frequency, which determines the motor speed.

While many VFDs have ground fault detection built-in, the detection level is the same as the overcurrent limit. This will shut down the drive, but only after considerable damage has occurred. The output contact action can be selected as auto-reset for applications controlling a shunt trip breaker, or latching for applications de-energizing a contactor coil when a fault occurs.

Updated IP Point HART Protocols

The IP Point HART from Technology Partner **Aparian** has been updated to support three new protocols and an enhanced multidrop operation. The module now supports PCCC (AB-ETH) allowing SLC™, MicroLogix™ and PLC-5® to read and write data to the HART instrument. It also provides direct access from FactoryTalk® View (with Logix controller required) and CC-Link.

The module converts any analog device into either EtherNet/IP™, Modbus-TCP, or DNP3 TCP/UDP protocols. This includes 4-20 mA I/O devices with or without HART communications and 0-20 ma devices without HART.

The waterproof module is designed to screw directly into the HART field device simplifying installation.

PRODUCT SPOTLIGHT

FAULT TOLERANT EDGE SERVER

Technology Partner **Stratus Technologies**' latest ftServer fault tolerant edge servers provide computing power and reliability optimized for the industrial edge and for edge data center locations.

The computing platform allows organizations to build distributed, edge-in architectures required to run advanced software applications, manage large scale I/O counts, and collect real-time data. The latest version expands configurations to fine-tune edge computing power and performance for current and future software deployments.

The server supports the latest operating systems, features NVMe memory for fast storage and running high-performance applications such as real-time analytics and machine learning.

Managed Switch

The **Allen-Bradley® Stratix® 5800 managed industrial Ethernet switch** from Rockwell Automation supports layer 2 access switching and layer 3 routing for use in multiple layers of the architecture. Robust security capabilities and ISA/IEC 62443-4-2 certification help enhance network security.

The switch has fixed and modular designs, giving users flexibility to configure it based on application needs. It offers combinations of copper, fiber and Power over Ethernet (PoE) ports to support a range of architectures.

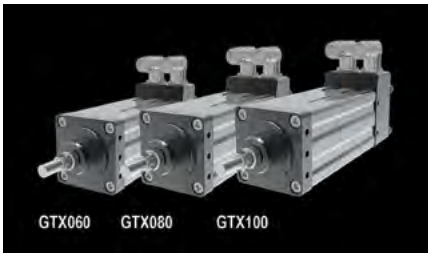
Studio 5000® Add-on Profiles support premier integration into the Rockwell Automation Integrated Architecture® system. And the Cisco® IOS-XE operating system helps ease integration to the enterprise.

Integrated Motor/ Actuator Model

The Exlar GTX060 integrated motor/actuator from Technology Partner **Curtiss-Wright** offers force, precision and repeatability while minimizing the maintenance and inefficiencies typical of fluid power alternatives.

With continuous force ratings up to 2,668N (600 lbf) and speeds to 1,016 mm/sec (40 in/sec) in both VAC and VDC power options, the unit's compact form can be applied across a range of automation applications.

High-capacity planetary roller screws extend service life and withstand higher shock loads than a comparably sized ball screw. A new splined rod option removes the need for an external anti-rotational device.



ADVERTISER INDEX


Rockwell Automation
we make
digital transformation possible
The next industrial transformation is here. Are you ready?
We partner with the innovators, problem solvers, builders and makers who believe our world can work better. We strive to expand human possibility by helping you build a Connected Enterprise to enable IoT-fueled digital transformation. We will help you meet today's challenges and prepare for what comes next.
expanding human possibility®
RockwellAutomation.com

Get Connected

aws Azure ptc SAP Microsoft SQL Server ORACLE

tManager™

PLC direct to cloud
No PC. No OPC. In-chassis.
Plant floor data
to your dashboards
in about 10 minutes

SILVER
Technology Partner
A ROCKWELL AUTOMATION PARTNER

Phoenix Digital

Redundant. Fiber. High availability.
No configuration. Plug and play.
Industrial networking modules.

Stay Connected

NetXpert XG

Industrial Ethernet cable testing
Active network testing
POE testing
Reporting

Softing Inc.
865-251-5252
sales@softing.us
industrial.softing.com/us

optimize! softing

Contact us for a quote or demo

Get Connected
Stay Connected

https://industrial.softing.com/us/solutions/rockwell-automation-solutions.html