Integrated Architecture
Real-time Control and Information Delivering
Smart Manufacturing, Machines and Equipment
The Connected Enterprise allows manufacturing and industrial operations to uncover new ways to bring value to customers through Digital Transformation, to keep pace with the competition and to meet increasing demands.

Through The Connected Enterprise, a Rockwell Automation® high-performance architecture helps manufacturers and industrial operators capitalize on the promise of an ever more connected world. The Digital Transformation of your entire value chain—from components to systems and from suppliers to customers—is the key to hidden value which can make a significant contribution to the productivity, quality, compliance and profitability of your enterprise. To achieve this and further enable The Connected Enterprise, the Integrated Architecture® from Rockwell Automation provides a multidiscipline automation architecture platform and network via EtherNet/IP® for scalability and a smarter, more productive, more secure system.

Our comprehensive services and solutions help you reduce risk and create value throughout your production lifecycle with global and local support, now and into the future. This helps reduce risk and creates value over the long term.

Enabled by integrated control and information and enhanced by the Industrial Internet of Things (IIoT), Rockwell Automation delivers The Connected Enterprise. Use the power of real-time data to make better, more informed business decisions, enabling you to attain and maintain profitability and a competitive edge.

The Connected Enterprise is reshaping the future of industrial automation by converging information technology (IT) and operations technology (OT) into a single, unified architecture. Combined with the IoT, which connects the physical and virtual worlds, technology is now leveraged to better gather and analyze data, transforming it into actionable information delivered to the right people at the right place at the right time.

The Connected Enterprise Provides:
- Faster time to market
- Lower total cost of ownership
- Improved asset utilization and optimization
- Enterprise risk management

**Smarter Technology**
A truly connected enterprise has real-time control and information available across platforms and devices within the organization.

**Enhanced Productivity**
New technologies, software and information help to increase productivity and improve overall business performance.

**Secure Environment**
Technology that helps customers mitigate their enterprise risk and monetize their intellectual property.

For more information: rok.auto/ia
THE CONNECTED ENTERPRISE

APPLICATION EXPERTISE

INTEGRATED CONTROL & INFORMATION

Open – Secure – Scalable

Smart Manufacturing
Our Integrated Architecture® control and information portfolio helps break down barriers, securely providing access to data that has traditionally been trapped and contextualizing it to provide the right intelligence to the right people at the right time. This actionable information impacts key performance indicators such as production throughput, process quality, asset health and energy efficiency, delivering real business value.

Faster Time to Market
Design productivity, faster commissioning times with intelligent devices, quicker startup of greenfields, proven technology around risk mitigation for operations and IT, and the agility to respond to customer trends more quickly.

Lower Total Cost of Ownership
Better lifecycle management, enabling more effective operations, improved energy management and easier technology migration.

Improved Asset Utilization and Optimization
Improved reliability, quality and predictive maintenance driven by operational intelligence tools.

Enterprise Risk Management
Protection of intellectual property and brand image with a safe and secure operating environment; reduced exposure due to poor product quality and internal and external threats.

Smart Machines and Equipment
Our Integrated Architecture control and information portfolio helps original equipment manufacturers (OEMs) to create intelligent manufacturing equipment that easily integrates into a facility, provides access to information and enables agile reaction to changing market demands. Rockwell Automation can help OEMs and their customers become connected, compliant and competitive.

For more information: rockwellautomation.com
MULTIPLE DISCIPLINES FROM ONE AUTOMATION ARCHITECTURE

Harness the power of multiple disciplines with the integrated architecture system.

As technology continues to drive innovations, your production enterprise must stay ahead to remain competitive. By converging your production disciplines into an integrated plant-wide architecture, you can benefit from a single, future-proof network technology that helps you address production growth, as well as growth of the wider plant.

By integrating process, batch, discrete, drives, safety and motion into one connected and segmented plant-wide infrastructure, you increase efficiency and productivity across all layers of your operations. This removes the need for multiple, disparate control systems, replacing them with one common framework that’s easier to install, operate and maintain.

Having real-time access to production data enables you to monitor and improve machine performance. Similarly, gaining insight into energy consumption helps you to predict demand and match it with cost-optimized supply, and to better manage peak usage patterns.

An Integrated Architecture Can Help You Enhance Your Connected Enterprise With:

- Increased productivity with continuous improvements that provide better asset utilization and system performance.
- Improved business agility through rapid and cost-effective response to changing markets.
- Security risk mitigation to help protect important assets such as people, information and equipment.
- Improved time to market through system design efficiencies and rapid asset integration.
- Supported sustainability with extended product lifecycles, safer environments and reduced energy usage.

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Integrated Architecture

The Power of One
With Logix technology, you can integrate process, batch, discrete, drives, safety and motion control into one infrastructure by using one control engine and one network technology across applications, operations and environments plant-wide.

Discrete Control
Logix provides exceptional reliability and performance for discrete applications. Tight integration between the programming software, controller and I/O modules reduces development time and cost at commissioning and during normal operation.

Motor Control
Configuring motor control devices in the Logix environment lets you consolidate controller programming and drive system configuration, operation and maintenance, reducing programming time, easing startup and commissioning and streamlining access to diagnostics.

Motion Control
Logix provides complete support for motion control, from configuration, programming and commissioning to diagnostics and maintenance. True integration simplifies commissioning and data collection, speeding time to market and maximizing uptime.

Integrated Safety
Focused on overall machine performance, Integrated Safety solutions use efficiency and design productivity to help machine builders deliver flexible, high-performance equipment at a more competitive price. Solutions like safe speed and safe direction can help to significantly reduce expensive shutdowns.

Continuous Process Control
PlantPAx® Distributed Control System combines plant-wide control and unmatched scalability of the Integrated Architecture system with the core capabilities of a Modern DCS to help you gain a competitive advantage.

Batch Process Control
Logix provides the flexibility you need to deliver your product to market faster with efficient, predictable batch processing, consistency between batches, event information during batch runs, along with the ability to reuse code, recipes, phases and logic, powered by Logix Based Sequence Manager.

For more information: rok.auto/ia
Implement a scalable automation architecture with the flexibility to meet a variety of applications at the most competitive cost, while offering the smallest possible footprint.

Delivering on these goals is a challenge, particularly when you’re building a range of machines for a variety of customer requirements. Hardware solutions from a given automation vendor can appear to be scalable. In reality, often they use different networks and programming tools, making machine design and development more complex.

Our approach incorporates common automation components and tools across the spectrum of applications, regardless of size and complexity. Having this sort of scalability enables you to reduce total costs of ownership because you need to buy only what you need. This aids agility and helps to keep learning and deployment investments low.

Save Time and Money During Your Development Cycle

The ability to reuse control and visualization designs and practices helps you achieve faster startups, improves integration and optimizes your productivity.

Improve Your Flexibility

By using common components and tools, you can scale your hardware and software to the needs of your application.

Reduce Maintenance Costs and Downtime

System components help reduce your maintenance costs by lowering your training requirements, spare parts inventory and Mean Time to Repair, all helping to increase your uptime.

Challenge

What appears to be scalable, integrated hardware operating smoothly on multiple networks by using different programming tools can actually be unnecessarily complex.

Solution

A scalable design environment, network technology and automation portfolio, fully integrated for the application in question.

Case Study

Biopharmax Group

Biopharmax Group, a global pharmaceutical facilities company, needed an open and scalable system to allow future expansion, while maintaining a minimum footprint and high levels of cleanliness. The solution was a scalable, state-of-the-art Integrated Architecture® system that enables fast reaction to manufacturing variables and provides remedial actions.
One Design Environment

This simple approach can accommodate every application, from small machines to an entire plant. It can be specified with ‘just enough’ functionality for applications, while offering flexibility and scalability as required.

Right-sized Control and Intelligence

From large control systems to small, we’ve developed a unique range of controller types and sizes to suit specific application needs – all with the same Logix control engine – all delivering world-leading performance and flexibility, leaner production and greater return on investment.

Single, Scalable Network

Our network solutions connect your automation control systems to each other and to the rest of your enterprise. We do this via a standard Ethernet network that scales from the simplest applications through to a plant-wide deployment.

One Design Environment

Increased I/O Flexibility

Whether chassis-based or distributed, in-cabinet, on-machine or embedded, our I/O solutions help increase flexibility and reduce wiring and costs. For safety solutions, our safety-rated I/O products are TÜV-certified up to SIL 3, PLe, Cat. 4.

Integrated Architecture Tools

We can help you to plan and configure an Integrated Architecture system, from the ability to create a simple bill of material to get started, to more advanced accelerator toolkits that minimize the time spent to create machine differentiation.

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Solution
A single design environment that helps to drive down the time and cost to design, develop and deliver your automation project.

Challenge
The design process can be made complicated by using different tools for each task.

Case Study
CKC Engineering was asked by one of the world’s largest medical device companies to design and develop a custom microbore tubing spooler machine for a new extrusion plant. The Rockwell Automation solution helped reduce programming and commissioning time by 25 percent.

Our Studio 5000 Automation Engineering & Design Environment® combines design and engineering elements into one standard framework with workflows that make it easy and intuitive to use.

Key Features
- Scalable and flexible - use modular code to simplify your application
- Efficient project design - write code, organize it, test it and duplicate it
- Effective content management - create content, store it, share it and reuse it
- Quicker downtime recovery - logically find what you need to quickly troubleshoot code
- Collaborative engineering - enable multiple people to code, then compare and merge

We offer a unique approach to automation. It uses a common control engine and development environment designed to deliver world-class capabilities for all automation disciplines and industries.

The Studio 5000 development environment helps you respond quickly to changes in market and business needs and reduces total costs of ownership. New design capabilities can increase automation productivity and reduce costs during a project’s lifecycle. Studio 5000 extends beyond one controller to be a system-wide development and design tool.

For more information: rok.auto/ia
**Enhanced Productivity**

**System Organization**
Organize your system in the way that’s best for you to design, operate and maintain your application. Studio 5000 offers a central point for design workflows and is the primary means to delivering contextual information to the right user at the right time.

**Library Management**
Simplifies the organization, accessibility and reuse of code, which helps establish best practices and standards. Efficiently managing reusable content speeds design time, especially when combined with the bulk engineering capabilities of Application Code Manager.

**Modular Automation**
Enables design engineers to break complex processes into manageable tasks and logical groupings of functionality. This makes code easier to reuse and helps with troubleshooting.

**Information-enabled**
Device and system data structures make it easy to collect data across the enterprise, transform it into actionable information and make it available to the right person at the right time. This supports better decision making and improved overall performance.

**System Security**
Help reduce risk and protect critical assets with a focus on infrastructure security, user access control, change detection and response and intellectual property management.

**Device Management**
Providing named data structures and a common user experience for all device types makes it simpler to design applications, reuse code and replace faulty or aging devices quickly. This improves productivity and reduces design cycles for faster time to market.

**Collaborative Engineering**
Speed development time by seamlessly sharing data between systems. This allows multiple people to work on the same project simultaneously anywhere in the world.

**Virtual Design and Engineering**
Achieve savings and maintain a competitive edge with digital design, simulation and emulation. Simulation helps protect your business by analyzing the impact of new business ideas, rules and strategies - before implementation. This helps shorten development cycles, reduce risk and optimize system designs.

For more information: rok.auto/ia
Enhanced Productivity

MANUFACTURING INTELLIGENCE AND OPERATIONS MANAGEMENT

Industrial enterprises worldwide are beginning to use emerging technologies to make sense of production data and turn it into actionable information that creates new business value. Seamless and secure connectivity between disparate production systems and processes throughout the entire enterprise is achievable and highly beneficial.

Modern operations management aims to enhance performance by making better use of data that already exists, using a combination of tools designed to deliver contextual, role-based information that can be acted on to improve systems or processes.

Our visualization, reporting and analytics solutions help to monitor the key factors affecting performance, efficiency, quality and energy management, made visible throughout the enterprise on easy-to-read dashboards.

Our solutions can be deployed individually at a machine or line level to solve specific needs, and then scaled across multiple lines or plants to achieve enterprise-wide business objectives.

Challenge
There are numerous information systems available that gather production data, but is it actionable information that drives an increase in business value?

Solution
Enabling real-time access to critical production information for better and faster decision making, business agility and improved performance and productivity.

Case Study

Trigg Technologies
Trigg Technologies sells, leases and services hydrocarbon transfers for oil and gas companies. The company cut an average of 20 days from billing cycles and reduced ticketing errors to virtually nil by using our control and information solution combined with a cloud platform. Trigg Technologies now has real-time visibility and historical trend data on transfers, overall oil quality and well productivity over time, improving maintenance and decision making.

For more information: rok.auto/ia
Performance Management with Enterprise Manufacturing Intelligence

Our solutions intuitively connect to your plant automation systems and present information on how your equipment is performing. Find Key Performance Indicators (KPIs) such as OEE (overall equipment effectiveness), MTTR (Mean Time to Repair) and many more.

Choose an Architecture that Provides Integrated Control and Information

Having a solid foundation is the key to building great solutions. Powering FactoryTalk® information software with Logix controllers connected with Stratix® switches helps to build more productive, more secure and more informed systems.

Put Your Information to Work

Our systems make it easier to gather, analyze, contextualize and share intelligence. Using flexible, open-standard-supporting software tools, you can connect and organize your data into actionable information. Gain wisdom and insight from your manufacturing data.

Collaboration

Use your information to make better decisions and to interact with others. Our solutions allow you to tailor the data from your control systems to meet your needs, and allow you to use today’s most prevalent technologies to share that information with others.

Mobile Solutions

Use your information to make better decisions by getting the right information to the right people at the right time on the right device. We have solutions for customers on all major mobile platforms. We focus on user enablement with intuitive workflows that untether you from desktop computers.

Visibility is Everything

With the right information software in place, you can increase your visibility into your operations. Our software helps you measure and see what is actually happening. From panel to desktop to big screens to small mobile screens, having the right information infrastructure is vital to helping you see your data the way you want it.

For more information: rok.auto/ia

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For more information: rok.auto/ia
INDUSTRIAL AUTOMATION SECURITY

Control systems, networks and software can all help defend against security threats and risks. It’s time to manage your risks and build the secure industrial control system that meets your needs.

Rockwell Automation recommends deploying a Defense-in-Depth approach to help protect against both internal and external security threats. This approach suggests the utilization of multiple layers of defense – physical, procedural and electronic – at separate levels of the architecture and plant.

The objectives of Defense-in-Depth include reducing the risk of an attack, identifying a potential attack as it tries to penetrate your assets, delaying the attack to increase the time you have to react and take action through appropriate countermeasures. Rockwell Automation offers products and services to help build a Defense-in-Depth strategy. These solutions include:

- **Securing the network infrastructure**
  Creating a control system network resistant to outside attacks

- **Content protection**
  Protecting valuable control system content and intellectual property from unauthorized use and copying

- **Tamper detection**
  Detect, document and provide notification for attacks on the control system

- **Access control and policy management**
  Create a trusted environment by controlling who, what, where and when access is allowed

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**Challenge**

Industrial organizations need to establish a seamless flow of information by connecting control systems to the enterprise; however, a complex, interconnected system doesn’t come without challenges.

**Solution**

A consistent, comprehensive approach to industrial security that extends beyond the control system to include data, policies and procedures that address people, processes and technology-related risks.

**Case Study**

**MG Bryan**

MG Bryan is a manufacturer of heavy equipment and machinery for the Oil & Gas industry. The company adopted cloud computing for remote asset management of high-tech fracking equipment through secure access to real-time information, and is now able to monitor fracking truck use by the minute, hour and day. This has enabled the company to change its leasing agreement from the industry-standard monthly agreements to a pay-by-use model.

For more information: rok.auto/ia
Defense-in-depth Approach
A multi-layer approach for helping to protect industrial assets at different levels, from security threats by applying the appropriate controls to address different types of risks.

Content Protection
Help protect valuable intellectual property such as production data, recipes, code from access and viewing by using Logix data protection services.

Securing the Network Infrastructure
Provide the ability to control access to the network and controlling unwanted activity relative to devices on your plant floor network.

Tamper Detection
Detect changes using digitally signed firmware, Logix controller change detection and event logging features in Studio 5000 and FactoryTalk® AssetCentre.

Access Control and Policy Management
Authentication and authorization of software and specific user roles and privileges can be controlled with FactoryTalk Security and further restricted using Security Authority Binding and Data Access Control.

Network and Security Services
Rockwell Automation Network and Security Services can help you assess, design, implement and audit your security program and architectures to align with global security standards.

For more information: rok.auto/ia
Secure Environment

PROFITABLE PARTNERSHIP

The continual rise in global demand places more pressure on the global manufacturing industry to avoid downtime and improve productivity and delivery. As the world’s largest company dedicated to industrial automation, we are able to help you meet this demand and optimize business profitability.

To achieve your defined goals, you have to assess, analyze and adapt production to overcome a number of challenges, including the increasing cost per hour of downtime and the ongoing challenge of finding skilled workers. In a sector where technology is constantly moving, you need to be able to trust in business partners who provide the solutions, services and support to help you stay ahead.

We understand that a profitable, safe and sustainable operation that minimizes downtime is your goal. To this end, we’ve developed a unique resource of industry and technology-specific expertise to help reduce project risk and provide solutions specific to your needs, executed globally and supported locally.

Maximizing Productivity
Our success is based on your success. Our singular goal is to help you drive productivity year after year. Our specific, experience-tested services are designed to help you maximize your automation investment.

Meeting Your Needs
Every industrial production facility requires its basic needs to be met on a daily basis: local availability of parts, on-site support, training and world-class expertise in local languages. Our global reach meets these needs for you.

Defining Strategies for Improvement
While meeting your everyday needs is important, you also need consistent access to experts to uncover business improvement opportunities with an actionable improvement plan to deliver results.

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Optimize Your Operation
Across industries and processes, Rockwell Automation understands that a profitable, safe and sustainable operation is your goal. We offer you industry and technology-specific expertise to meet these goals and your unique challenges.

Protect Your Investment
Beyond our solution delivery capabilities, our global infrastructure of support centers and subject matter experts all help protect your automation investment, optimize plant assets, increase productivity and improve your overall financial performance.

The Support You Need, When You Need It
Guaranteed response for remote support, replacement parts and on-site services in one integrated support agreement for one flat fee that gives you one point of contact for all of your equipment and repair needs.

Scalable Solutions
While we develop solutions to meet your needs today, we constantly have an eye on tomorrow. We take a collaborative approach to understanding your current state and how to design a solution that weighs scalability as a major factor.

Modernization Support
As products age, we provide options to help you extend their life as long as possible, and give you enough advance notification to allow you to transition as seamlessly as possible to the next generation.

Strategic Alliances
Our alliance partners work with us and you to develop capabilities that provide seamless solutions, giving you the strongest technological, competitive and strategic advantages within your enterprise and across your supply chain.

PartnerNetwork
Our PartnerNetwork™ framework comprises an integrated team of engineering specialists and best-in-class suppliers who work collaboratively to solve your manufacturing and automation challenges by streamlining your supply chain and simplifying project implementation.

For more information: rok.auto/ia

Profitable Partnership

Reduce Risk and Create Value Throughout Your Production Lifecycle

Secure Environment
For more information: rok.auto/ia

As one of the world's largest companies dedicated to industrial automation, our extensive product portfolio, services and support help to improve your manufacturing cycle.

**HARDWARE PORTFOLIO**

**Programmable Automation Controllers**
- Modular and scalable systems
- Proven, batch, discrete, drives, safety and motion control
- High availability
- PLC 2 and PLC 3 safety certified
- Embedded and Distributed I/O
- Extreme Environment (XT) and Conformal Coating

**Input/Output**
- Chassis-based, local, family-specific, distributable via communication networks
- Distributed, in-cabinet modular – flexible, customizable
- Distributed, in-cabinet block – includes network adapter, analog, digital and specialty
- On-Machine™ modular – direct mount, reduced wiring costs, easy maintenance
- On-Machine direct mount, block – reduced wiring costs, easy maintenance
- Safety – FLEX 5000™ V3, POINT Guard I/O, ArmorBlock™ V3, CompactBlock™ Guard I/O – reduced wiring costs and startup time, available for in-cabinet and On-Machine applications
- Distributed/Embedded - built-in EtherNet/IP™ and DeviceNet™ support, IO-Link technology, optional DeviceLogix™ Smart Component Technology

**Condition and Energy Monitoring**

**Condition Monitoring**
- Integrated condition monitoring on the EtherNet/IP network
- High-performance portable data collectors
- Proven, comprehensive predictive maintenance software
- Sensors and accessories for a complete solution
- Energy monitoring on the EtherNet/IP network
- Capture comprehensive information:
  - How much power you use
  - What your major loads are
  - When you use electric power the most
  - How much you pay for it
  - Quality of the power you use

**Energy Monitoring**
- Energy monitoring on the EtherNet/IP network
- Capture comprehensive information:
  - How much power you use
  - What your major loads are
  - When you use electric power the most
  - How much you pay for it
  - Quality of the power you use

**Motor Control**

**PowerFlex AC Drives**
- Designed for application flexibility
- Real-time information access for your power and control system
- Premier integration with Studio 5000 software for seamless control system integration

**PowerFlex Medium Voltage Drives**
- Enable soft-starting and variable-speed control of processes with high-power demands
- Help reduce energy costs, component counts, maintenance and motor wear

**Motion Control**
- Servo drives for a broad range of applications
- Rotary and linear servo motors
- Safety servo drives minimize downtime and reduce energy and production waste

**Operator Interfaces and Industrial Computers**
- Extreme environment computers
- ATEX and UL-rated for hazardous locations
- Industrial environment, non-display and integrated display computers
- Variety of features for both IT and manufacturing environments

**Industrial Networks Infrastructure and Ethernet Media**

**Static Switches**
- Managed Ethernet switches use a Cisco® Operating System
- Variety of features for both IT and manufacturing environments
- Unmanaged Ethernet switches are ideal for small, isolated networks

**Static Security Appliances**
- Combine several modern security functions into a single appliance
- Help provide incident detection, prevention and response

**Motor Control Centers**
- CENTRELLINE® Motor Control Centers (MCCs) offer a rugged, high-performance packaging solution for all your motor control needs

**Motor Control**
- SMC™ soft starters can be easily integrated into your intelligent motor control solution to offer higher productivity and shorter downtimes
- A full line of versatile and robust starters and relays for both low and medium voltage, and IEC and NEMA applications

**Operator Interfaces and Industrial Computers**
- Graphical terminals with dual Ethernet ports for Device Level Ring (DLR) topologies
- Industrial flat panel, LCD monitors – 3-ring DLR topologies

**Network Topologies**
- Device Level Ring (DLR)
- 3-ring DLR
- Parallel Redundancy Protocol (PRP)

**Media and Connectors**
- Complete portfolio of industrial-grade Ethernet physical media
- In-Cabinet (RJ45) Network Media
- On-Machine (MI2 and Variant I) Ethernet Media

**Sensors and Safety**

**Smart Sensors**
- Smart Sensors with IO-Link serve as an enabling technology for The Connected Enterprise
- IO-Link provides seamless integration of sensors through The Integrated Architecture
- Multiple master options and a wide range of IO-Link enabled smart sensors available
- Radio Frequency Identification (RFID) Systems and Encoders with direct EtherNet/IP connectivity

**Smart Safety**
- GuardLink technology seamlessly links safety components to The Integrated Architecture
- Ethernet connectivity for software configurable and GSP single-function safety relays
- The 440R-ENETR software configurable safety relay can share information with the control system through the optional EtherNet/IP plug-in module
- Intelligent GuardMaster™ safety relays offer network connectivity via the optional 440R-ENETR EtherNet/IP Interface

**Input/Output**
- On-Machine™ modular – direct mount, block – reduced wiring costs, easy maintenance
- Safety – FLEX 5000™ V3, POINT Guard I/O, ArmorBlock™ V3, CompactBlock™ Guard I/O – reduced wiring costs and startup time, available for in-cabinet and On-Machine applications
- Distributed/Embedded - built-in EtherNet/IP™ and DeviceNet™ support, IO-Link technology, optional DeviceLogix™ Smart Component Technology

**Condition and Energy Monitoring**
- Integrated condition monitoring on the EtherNet/IP network
- High-performance portable data collectors
- Proven, comprehensive predictive maintenance software
- Sensors and accessories for a complete solution

**Energy Monitoring**
- Energy monitoring on the EtherNet/IP network
- Capture comprehensive information:
  - How much power you use
  - What your major loads are
  - When you use electric power the most
  - How much you pay for it
  - Quality of the power you use

**Motor Control**

**PowerFlex AC Drives**
- Designed for application flexibility
- Real-time information access for your power and control system
- Premier integration with Studio 5000 software for seamless control system integration

**PowerFlex Medium Voltage Drives**
- Enable soft-starting and variable-speed control of processes with high-power demands
- Help reduce energy costs, component counts, maintenance and motor wear

**Motion Control**
- Servo drives for a broad range of applications
- Rotary and linear servo motors
- Safety servo drives minimize downtime and reduce energy and production waste

**Operator Interfaces and Industrial Computers**
- Extreme environment computers
- ATEX and UL-rated for hazardous locations
- Industrial environment, non-display and integrated display computers
- Variety of features for both IT and manufacturing environments

**Industrial Networks Infrastructure and Ethernet Media**

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Design and Configuration
The Studio 5000® Automation Environment combines engineering and design elements into one standard framework that enables optimized productivity and reduced commissioning time.

Studio 5000 Architect Software
Studio 5000 Architect® software is an integrated engineering environment that allows you to streamline the time to build your Logix and FactoryTalk® View automation system, supports reuse of content and provides seamless exchange of data between engineering tools.

Studio 5000 View Designer Software
Studio 5000 View Designer® software is the design environment for the PanelView™ 5000 graphic terminals. As part of the Studio 5000 environment, View Designer software offers enhanced integration with Logix to improve operator performance.

Studio 5000 Logix Designer Software
Studio 5000 Logix Designer® software is the software that provides the next progression of RSLogix® 5000® software, delivering a standardized framework for discrete, process, batch, motion, safety and drive-based systems, helping save programming time.

Studio 5000 Application Code Manager
Studio 5000 Application Code Manager software is a new design tool that allows you to leverage your re-usable content, helping you to increase deployment efficiency, accuracy and overall cost savings.

FactoryTalk® VantagePoint® and RSLinx® Classic
FactoryTalk® VantagePoint® and RSLinx® Classic with Rockwell Automation software to browse the network and configure Micro800® controllers with the PanelView 800 HMI editor integration and PowerFlex® drives configuration.

FactoryTalk® Historian
Capture the data you need to improve operations. Powerful reporting and trending tools provide critical insight into performance parameters and are available at high speed, reliability — from machine to enterprise.

FactoryTalk® Metrics
Generates accurate reporting of real plant floor activity, giving you important insights into overall equipment effectiveness and downtime analysis for increased productivity and profitability.

Use FactoryTalk® Line and RSLinx® Classic with Rockwell Automation software to browse the network and communicate with compatible devices. It enables access to control system data for other software via an OPC communications interface.

Manufacturing Intelligence and Analytics
FactoryTalk® EnergyMetric® Software
A web-enabled management software package that gives you access to critical energy information from virtually any location, providing complete energy-management decision support.

FactoryTalk® Analytics
Collect your raw data and turn it into actionable information with our scalable analytics solutions. From an Industrial IoT sensor to machines — all the way through your enterprise, we can help you with the right application and remove barriers to success.

FactoryTalk® AssetCentre
Provides you with a centralized tool for securing, managing, versioning, tracking and reporting automation related asset information across your entire facility. It can improve uptime, productivity, quality, employee safety or regulatory compliance.

FactoryTalk® TeamONE
The FactoryTalk TeamONE productivity app seamlessly connects to the technology that manufacturers adopt during their digital transformation. It boosts team productivity by enabling users to collaborate and share knowledge, view live production diagnostics, interact with machine alarms, and troubleshoot devices.

ThinManager®
ThinManager® allows unprecedented control and security in a scalable platform regardless of the size of your industrial environment or number of facilities. Its thin client architecture allows for deployment of less expensive hardware, while giving users the applications and tools familiar to them and increasing security through centralized management.

Manufacturing Execution Systems (MES)
FactoryTalk® EnergyMetric® Software
A web-enabled management software package that gives you access to critical energy information from virtually any location, providing complete energy-management decision support.

FactoryTalk® Analytics
Collect your raw data and turn it into actionable information with our scalable analytics solutions. From an Industrial IoT sensor to machines — all the way through your enterprise, we can help you with the right application and remove barriers to success.

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Process
PlantPak® System
Is the modern world-class distributed control system (DCS) from Rockwell Automation. Built on a scalable architecture, it enables plant-wide control and premier integration with the Rockwell Automation Intelligent motor control portfolio.

FactoryTalk® Batch
Provides consistent, predictable, batch processing and supports re-use of code, recipes, phases and logic. It combines the ISA-95 standard with proven technology providing the flexibility to go to market faster.

Pavilion® Software
Is model predictive control software that provides tools to improve operation agility, allowing quick adaptation to changing business priorities and customer demands. The software includes modules to control, analyze, monitor, visualize, and integrate as it powers the powerful modeling engine.
### Programmable Automation Controllers At-A-Glance

#### Overview

<table>
<thead>
<tr>
<th>ControlLogix 5580</th>
<th>ControlLogix 5770</th>
<th>CompactLogix 5480</th>
<th>CompactLogix 5380</th>
<th>CompactLogix 5370</th>
<th>Micro800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical controller performance 32 axes / ms</td>
<td>Typical controller performance 25 axes / ms</td>
<td>up to 150 axes of motion</td>
<td>Typical controller performance 32 axes</td>
<td>Typical controller performance 16 axes</td>
<td>Typical controller performance 32 axes</td>
</tr>
<tr>
<td>CompactLogix controllers: 8 MB standard / 3.75 MB safety memory</td>
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<td>ControlLogix-XT™ rated for -20 - 70 °C</td>
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<td>Micro800 controllers provide a customized solution with basic control for standalone machines. Available in different formfactors, these controllers are optimized to deliver smart productivite and accurate solutions throughout all phases of the machine lifecycle. They can be programmed and used with the ControlLogix Workbench® software, they share common accessories, plug-in and expansion I/O modules that allow machine builders to personalize the controller to specific applications.</td>
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<tr>
<td>Typical controller performance 6 axes / ms</td>
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#### Key Features

- Suitable for high-performance, discrete and motion applications
- Integrated Motion on EtherCAT®
- Multiple controllers in the same chassis, with each one operating independently
- Built-in 1 Gb Ethernet port
- Designed for high-performance with Compact500™ I/O
- Conformal coating offers added protection in harsh environments
- Suitable for process, motion, discrete and safety applications
- Integrated Motion on EtherCAT®
- Suitable for process, motion, discrete and safety applications
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<tbody>
<tr>
<td>32 MB (Logix), Approx. 16 GB free (OS)</td>
<td>16 MB (Logix), Approx. 8 GB free (OS)</td>
<td>20 MB (Logix), Approx. 16 GB free (OS)</td>
<td>40 MB (Logix), Approx. 16 GB free (OS)</td>
<td>20 MB (Logix), Approx. 16 GB free (OS)</td>
<td>32 MB (Logix), Approx. 16 GB free (OS)</td>
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#### Safety Level

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#### Standards

css/Cs, CE, 9K3, IEC, Ethernet/IP, FM, IEC, AEC, EN, EAC, Marine

css/Cs, CE, 9K3, IEC, EAC, marine

css/Cs, CE, 9K3, IEC, EAC, marine

css/Cs, CE, 9K3, IEC, EAC, marine

css/Cs, CE, 9K3, IEC, EAC, marine

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#### Environmental

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#### More Information

For the most up-to-date information on our full range of programmable automation controllers and accessories, visit: http://ab.rockwellautomation.com/Programmable-Controllers/
## Input/Output (I/O) Modules At-A-Glance

### Overview
- A full range of digital, diagnostic, analog, motion, control, and specialty I/O modules can be used in the local chassis of a ControlLogix® controller or in a chassis linked to a ControlLogix controller across EtherNet/IP™.
- The Compact 5000 I/O platform offers high-performance communication in a compact design and includes SIL-rated safety modules.

### Compact 5000
- **Overview**: The Compact 5000 I/O platform offers high-performance communication in a compact design and includes SIL-rated safety modules.
- **Key Features**:
  - **Comprehensive diagnostics for detection of both system and field-side failures**.
  - **Inherent time-stamping capabilities for Sequence Of Events applications**.
  - **Electronic keying to help prevent replacement errors**.
- **I/O Types Offered**:
  - **Digital**: Offers 8- to 32-point modules, offers a variety of voltages, isolated and non-isolated modules.
  - **Analog**: Inputs, output combinations, modules with field power distribution, modules with safety modules rated up to SIL 3, PLe, and Cat. 4.

### Compact
- **Overview**: Can be used in a local or distributed I/O with CompactLogix 5570 family of controllers. Pack I/O features in a chassis design, lowers costs, and reduces replacement parts inventory.
- **Key Features**:
  - **Comprehensive diagnostics for detection of both system and field-side failures**.
  - **Inherent time-stamping capabilities for Sequence Of Events applications**.
  - **Electronic keying to help prevent replacement errors**.
- **I/O Types Offered**:
  - **Digital**: 8- to 32-point modules, offers a variety of AC and DC voltages, includes contact output modules, includes high-speed input modules.
  - **Analog**: Universal analog input modules, analog output modules, high isolation - fast conversion rates, common wiring configuration for standard and safety inputs.

### FLEX 5000
- **Overview**: The FLEX 5000 I/O is a flexible and reliable I/O solution that is modular and easy to install. It is also designed for use in extreme or hazardous environments, and includes fail-safe SIL 3-rated Safety modules.
- **Key Features**:
  - **Built for extreme and hazardous environments, with the ability to operate at -40°C-70°C (-40°F-158°F)**.
  - **Enables communication with 1 Gb EtherNet/IP connectivity**.
  - **Reduces downtime with Removal and Insertion Under Power (RIUP) by replacing modules while system is in operation**.
  - **Flexible and modular with capability to support up to 32 channel digital input/output and 8 channel analog input/output**.
- **I/O Types Offered**:
  - **Digital**: 8- to 32-point modules, offers a variety of AC and DC voltages, includes contact output modules, includes high-speed input modules.
  - **Analog**: Universal analog input modules, analog output modules, high isolation - fast conversion rates, common wiring configuration for standard and safety inputs.

### FLEX
- **Overview**: FLEX I/O offers the functionality of larger rack-based I/O without the space requirements. It helps to eliminate multiple long wiring runs, reduce terminations, decrease engineering and installation costs and time, and substantially reduce downtime. FLEX I/O offers cost-effectiveness, flexibility, modularity, and reliability.
- **Key Features**:
  - **Modular design lets you independently select the I/O, termination style and network interface**.
  - **Assemblies without tools — all components snap into DIN rail and plug together to form the I/O system**.
  - **Mounts horizontally or vertically**.
  - **Reduce downtime with Removal and Insertion Under Power (RIUP) by replacing modules while system is in operation**.
  - **Available with conformal coating to help protect in harsh environments**.
- **I/O Types Offered**:
  - **Digital**: 8- to 32-point modules, offers a variety of AC and DC voltages, includes contact output modules, includes high-speed input modules.
  - **Analog**: Universal analog input modules, analog output modules, high isolation - fast conversion rates, common wiring configuration for standard and safety inputs.

### Communications
- **Overview**: The FLEX I/O-XT™ Extreme Environment is rated to -25°C to 70°C (-13°F to 158°F) and is compatible with ControlLogix® Extreme Environment system, Analog input with RIUP support, Thermocouple, RTD, and HART modules available.
- **Key Features**:
  - **Built for extreme and hazardous environments, with the ability to operate at -40°C-70°C (-40°F-158°F)**.
  - **Enables communication with 1 Gb EtherNet/IP connectivity**.
  - **Reduces downtime with Removal and Insertion Under Power (RIUP) by replacing modules while system is in operation**.
  - **Flexible and modular with capability to support up to 32 channel digital input/output and 8 channel analog input/output**.
- **I/O Types Offered**:
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### More Information
- For the most up-to-date information on our full range of I/O modules and accessories, visit auto.rk.automation.com/IO.

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For more information: rok.auto/ia
### POINT ArmorBlock 1719 Ex 1715 Redundant

#### Overview
- **POINT**
  - Ideal for applications requiring flexibility and low cost of ownership. granularity of 1 to 8 points lets you buy only the I/O you need. The compact design makes modules easier to install in limited panel space. **POINT ArmorBlock** is the only POINT-rated modular I/O solution compliant with CDEA requirements for Linear Star and Ring EtherNet/IP architectures.
- **ArmorBlock**
  - I/O Modules are low-cost, hardened I/O that can be mounted on machines to help reduce wiring cost and enable easier maintenance. ArmorBlock I/O can be used for automotive, material handling and packaging applications or for machinery applications where diagnostics and local control are not needed.
- **1719 Ex**
  - Intrinsically safe distributed I/O solution that is mounted in Zone 2 or Division 2 and helps enable customers to integrate devices in hazardous (Zone 1, Zone 2, and Division 1 areas) and aids in maintaining system health. It is also designed for use in conjunction with basic I/O and ArmorWeld I/O modules to provide a comprehensive I/O solution.
- **1715 Redundant**
  - Redundant I/O provides fault tolerance and redundancy for critical processes by using a pair of redundant EtherNet adapters and multiple I/O modules. I/O modules provide diagnostics and are interchangeable with no interruption to the control system. Plus, it requires no user programming code or additional hardware to operate.

#### Key Features
- **POINT**
  - Independently select I/O, termination style and network interface to meet your unique requirements.
  - Removable wiring system saves time and money during installation and troubleshooting.
  - Comprehensive diagnostics and configurable features to optimize system performance.
  - Reduces downtime with Removal and Insertion Under Power (RIUP) by replacing modules while system is in operation.
  - Mount horizontally or vertically, with no derating required.
  - Also available: 1719 ArmorPOINT® for On-Machine applications.
  - Available with conformal coating to help protect in harsh environments.
- **ArmorBlock**
  - Ingress protection (IP) ratings of up to IP65/67 for enhanced installation in harsh environments.
  - Safety outputs rated up to PLe (use with GuardLogix® family).
  - PLd-rated, single channel safety inputs.
  - 16-points combined I/O blocks.
- **1719 Ex**
  - Dual IP65 and IP67 ratings.
  - Safety outputs rated up to PLe (use with GuardLogix® family).
  - PLd-rated, single channel safety inputs.
- **1715 Redundant**
  - Supports several network topologies, including Device Level Ring (DLR) for enhanced resiliency.
  - Flexible, modular construction for user-configurable I/O applications.
  - I/O redundancy for systems requiring high availability.
  - Suitable for simplex and duplex connections and fault tolerant applications.
  - Supports online module removal and replacement with no interruption of the signal inputs.

#### I/O Types Offered
- **Digital**
  - Input, output, and relay output modules.
  - Wide variety of voltages.
- **Analog**
  - Up to eight single-ended inputs or outputs per module.
  - 4-channel input/output.
  - Temperature and RTD modules.
- **Specialty**
  - Counter and encoder modules.
  - Serial synchronous interface; Absolute Encoder modules.
  - Serial interface modules.
  - Address Reserve Module (ARM).
  - On-Module master module.
  - ArmorGuard I/O Safety.
  - Digital input, digital output, and analog input modules and bipolar output modules.
  - TUV-certified for functional safety up to and including SIL 3, Cat. 4, PLe.
  - Can be used side-by-side in a standard POINT I/O system.
- **ArmorBlock**
  - Up to 16 points per block.
  - Available with 0.5% on some blocks.
  - 4-point analog, thermocouple and RTD I/O blocks.
  - Supports connection to IO-Link-enabled devices with the IO-Link master module.
  - Available with Quick-Connect on some blocks.
  - Standard NAMUR and EN60529 ratings.
  - ArmorWeld I/O.
- **1719 Ex**
  - 16 points.
  - Specialized for weld heads and magnetic fields found in close proximity to weld heads.
  - Light weight nickel-plated aluminum metal housing.
  - 8-channel output.
  - 16-channel input.
- **1715 Redundant**
  - Supports online module removal and replacement with no interruption of the signal inputs.

#### Communications
- **EtherNet/IP**
  - Supports several network topologies, including Device Level Ring (DLR) for enhanced network resilience.

#### More Information
For the most up-to-date information on our full range of I/O modules and accessories, visit: ab.rockwellautomation.com/I0
Condition and Energy Monitoring At-A-Glance

Dynamix Series Integrated Machinery Monitoring System

Overview
Rotating and reciprocating machinery protection within your standard control system. Configured with Studio 5000 and connected on EtherNet/IP, providing a single architecture to control and protect.

Key Features
- Configured from Studio 5000 for CompactLogix or ControlLogix controllers with v24+ or V20 firmware
- Allows machinery protection to API-670 5th Edition
- Power using single or redundant 18-32V DC SELV supplies
- Temperature rated for -25 to 70 °C
- Hazardous area certifications – IECEx Conformity; ATEX Zone 2; UL Class 1 Div 2; Groups A, B, C, D
- Spring or screw style removable plug connectors
- Circuit cards are conformal coated
- Certified to Marine standards for shock and vibration

Option Modules
- Tachometer Signal Conditioner Expansion Module
  - Two-channel monitor that converts the signal from common speed sensing transducers into a once-per-rev TTL class signal suitable for use by up to six dynamic measurement modules
- Relay Expansion Module
  - Four relay expansion module. Up to three relay expansion modules may be used with each dynamic measurement module
- Analog Output Expansion Module
  - Four-channel module that outputs 4-20 mA analog signals that are proportional to measured values provided by the dynamic measurement module

Main Module Inputs
- 4 channels dynamic, 2 tachometer (TTL)

Frequency Range
- 11.5 Hz to 40 kHz

Tracking Filters
- 4 per channel

Alarms
- 25 Measurement alarms, 13 voted alarms

Communications
- EtherNet/IP, dual port or Device Level Ring

More Information
To see our full range of condition monitoring products and for more information on these products, visit: http://ab.rockwellautomation.com/Condition-Monitoring

PowerMonitor 1000

Overview
A compact power monitor for load profiling, cost allocation, or energy control. Integrates with existing energy monitoring systems to provide sub-metering. Communicates easily with Logix controllers to use energy data in automation systems.

Key Features
- Compact size
- Integrated LCD display
- Panel or DIN rail mounting
- Provides voting diagnostics
- Time of use (On-Peak, Off-Peak)
- Energy, max/min, status and load factor log
- Ability to view data and configure through the integrated web page

Options
- 1408-BC3A-ENT
  - Basic consumption meter
- 1408-TS3A-ENT
  - Consumption + Volt/Current
- 1408-EM3A-ENT
  - Energy management meter

Accuracy levels (per standard EN62053-22)
- Class 1, 1% energy accuracy

Outputs
- Modbus RTU
- EtherCAT
- EtherCAT
- PLC/DCS

Communications
- Available with EtherNet/IP, Serial RS-232, Modbus RTU, Modbus TCP communications

More Information
To see our full range of energy monitoring products and for more information on these products, visit: http://ab.rockwellautomation.com/Energy-Monitoring

PowerMonitor 5000

Overview
Next generation high-end, power quality monitoring product. Building on core power and energy monitoring capabilities, the PowerMonitor™ 5000 takes energy monitoring to the next level.

Key Features
- Monitors 4 voltage and 4 current channels for every electrical cycle – 1024 data points across 8 channels every 12-17 milliseconds
- Calculates over 6,000 parameters every cycle
- Includes 4 digital inputs for WAGES data collection
- Includes 4 outputs for connection to SCADA or control systems
- Offers configurable alarms for up to 30 events
- Provides virtual wiring connection capability

Options
- M5 – base model
- M6 – includes base model features, plus:
  - Harmonics
  - Oscillography
  - Event Sync
- M8 – includes base model features, plus:
  - Harmonics
  - Oscillography
  - Event Sync
  - Interharmonics
  - Transient Detect

Accuracy levels (per standard EN50470-22)
- Class 0.2, 0.2% energy accuracy

Outputs
- Digital signal
- EtherCAT
- DeviceNet
- ControlNet
- KYZ signal

Communications
- Includes native EtherCAT/R port
- Provides a second communication port

More Information
To see our full range of energy monitoring products and for more information on these products, visit: http://ab.rockwellautomation.com/Energy-Monitoring
Intelligent Devices At-A-Glance

**S&RF Radio Frequency Identification (RFID) System**

**Overview**
- Ideal for tracking and documenting products as they move through the manufacturing process in light-duty industrial applications. The RFID system tags, transceivers and interfaces are designed to the ISO 15693 open standard for high frequency.

- **IO-Link Sensors**
  - **Rugged transceiver styles for industrial locations**
  - **Disc – Mount on metal (Extreme Durability)**
  - **Disc – Large memory FRAM (2 or 8 Kb)**
  - **Disc – High-Impact Resistant (Extreme Durability)**
  - **Disc – 128 Byte SLI (8 – 50 mm Dia)**
  - **Cylindrical M30**
  - **Square 40 x 40**
  - **Rectangular 80 x 90**
  - **42EF RightSight™ General Purpose Sensors designed for light- to medium-level industrial use**
  - **42JS and 42JT VisiSight™ Sensors offer a small rectangular package with versatile light beam for ease of alignment and industry standard mounting**
  - **4200-IQ04**
  - **4-point digital input, 12/24V DC, sink/source, Type3**
  - **4-point digital output, 12/24V DC, source**
  - **2080-IB24**
  - **4-point digital input, 12/24V DC, sink/source, Type3**
  - **4-point digital output, 12/24V DC, source**

- **Guardsman 440C-CR30 Software Configurable Safety Relay**
  - Provides embedded communication via USB programming port and non-isolated serial port for RS-232 communications
  - Offers optional Ethernet plug-in module

- **Guardsman**
  - **DVS**
  - **Emissive point diagnostic (EM) or delayed (EMD) outputs**
  - **SI/CI**
  - **GD**
  - **DI/DIS**
  - **GLT/GLP**

**Key Features**
- **IO-Link technology provides seamless integration of sensors through the Integrated Architecture**
- **Enabled sensors offer advanced features and diagnostics**
- **In addition to product detection, sensors provide detailed and accurate machine health status to improve uptime**
- **PORT and ArmorBlock IO-Lank master modules, and a wide range of IO-Lank enabled smart sensors available**
- **Suitable for applications up to 8.Mod. Cat. Aper. ISO 13849-1 and SL, CE3 per EC 62061**
- **Offers 22-point embedded safety I/O**
- **Supports as many as two Micro800 plug-in modules**
- **Includes single-wire safety relay output points for interlocking between Guardsman® safety relays**
- **Can communicate diagnostic data to a Logix controller with optional Ethernet communications module**

**Options**
- **EtherCAT Interface Blocks**
  - **1 or 2 Ethernet ports plus I/O**
  - **Parallel I/O**
  - **Square 40 x 40**
  - **Cylindrical M19**
  - **Cylindrical M18**
- **Tags**
  - **Disc – 1/2 Byte S & B – 56 mm (O/D)**
  - **Disc – High Impact Resistant (Extreme Durability)**
  - **Disc – Vacuum on metal**
  - **Disc – Large memory FRAM (2 or 8 Kb)**
  - **Disc – High temperature**

**Communications**
- **1 and 2 channel EtherCAT interface available**
  - **Embedded switch, with Device Leveling (DLR)**
  - **Devices connect to PORT and ArmorBlock IO-Lank master modules**
  - **Provides embedded communication via USB programming port and non-isolated serial port for RS-232 communications**
  - **Offers optional Ethernet plug-in module**

**More Information**
- For the most up-to-date information on our full range of RFID offering, visit [http://ab.rockwellautomation.com/Sensors-Switches/RFID/](http://ab.rockwellautomation.com/Sensors-Switches/RFID/)
- For the most up-to-date information on our full IO-Link offering, visit [http://ab.rockwellautomation.com/Networks-and-Communications/IO-Link](http://ab.rockwellautomation.com/Networks-and-Communications/IO-Link)
- For the most up-to-date information on our full range of safety relays, visit [http://ab.rockwellautomation.com/Safety-Relays](http://ab.rockwellautomation.com/Safety-Relays)
### Kinetix 5700 Overview
Kinetix® 5700 servo drives help expand the value of Integrated Motion on EtherNet/IP to large machine builder applications. The Kinetix® 5700 servo drive can help reduce commissioning time and improve machine performance. It offers the simplicity, power and space savings you need to help get your machine up and running faster.

### Key Features
- **Features dual-axis modules**
- **Controls servo and induction motors**
- **Reduces wiring with single cable technology**
- **Allows for tuning-less commissioning for most axes**
- **Delivers 4% to 7% cabinet space savings**
- **Supports optional encoder output module**
- **Regenerative power supply option with energy management and low harmonic operation**
- **Available with conformal coating to help protect in harsh environments**

### Safety Level
- **Standard Kinetix 5700 servo drive**
  - Integrated Safe Torque-Off (ISO 13849), SLC 3
  - Hardwired Safe Torque-Off (ISO 13849), SLC 3

- **Advanced Safety Kinetix 5700 servo drive**
  - Network-based advanced safety
  - Certified: SLC 3

### Continuous Power
- **1.6 - 112 kW**
- **0.5 - 15kW**
- **0.4-0.8 kW (115V single phase)**
- **0.4-1.7 kW (230V single phase)**
- **0.5-3 kW (230V 3 phase)**
- **1-3 kW (460V 3 phase)**

### Supply Voltage
- **325-528V AC**
- **195-528V AC single phase (H003-H015)**
- **230-480V AC 3 phase all models**

### Communications
- **Integrated Motion on EtherNet/IP**
  - Dual port Ethernet connector allows for both line and Device Level Ring (DLR) topologies

### More Information
For the most up-to-date information on our full range of servo drives, visit: [http://ab.rockwellautomation.com/Motion-Control/Servo-Drives](http://ab.rockwellautomation.com/Motion-Control/Servo-Drives)
Servo Motors At-A-Glance

**Overview**
- Optimized to operate with the Kinetix 5500 family of servo drives, supporting Integrated Motion on EtherCAT. Based on proven MP technology, these motors offer the many benefits of a single-cable for feedback, brake and power.
- Low-inertia, high-output brushless servo motors. These compact and highly dynamic brushless servo motors are designed to meet the demanding requirements of high performance motion systems. Typically used with the Kinetix® 5700, Kinetix® 6000, Kinetix® 6200, Kinetix® 6500, Kinetix® 300, and Kinetix® 350 servo drive families.

**Key Features**
- Based on proven magnetic core MP technology
- Provides real-time motor performance information to the control system via digital feedback device
- Provides feedback, motor brake, and motor power through a single cable
- Optimized to match drive ratings allowing for efficient system sizing
- Integrated 24-volt holding brake option

**Model variants**
- **VPL** – Standard low inertia
- **VPF** – Food grade
- Stainless steel shaft and fasteners
- Food grade and REACH compliant shaft seal grease
- Offers improved food grade white paint
- Food-grade shaft seal
- IP66- and IP67-rated connectors can be rotated without the use of tools

- **VPC** – Continuous torque
- High continuous power applications up to 30 Kw
- Field replaceable fan kit
- High-energy rare-earth magnets for quicker acceleration
- Standard IEC 72-1 mounting dimensions
- SpeedTEC DIN connectors allow flexible orientation of connectors
- Integrated 24-volt holding brake option

**Model variants**
- **MPL** – Low Inertia
- **MPF** – Food grade
- Stainless steel shaft and fasteners
- Food-grade grease on shaft seal
- Durable two-part food-grade epoxy coating
- Hardened shaft wear sleeve for long-lasting shaft seal and shaft
- IP66- and IP67-rated connectors can be rotated without the use of tools

- **MPF** – Food grade
- Stainless steel shaft and fasteners
- Food-grade grease on shaft seal
- Hardened shaft wear sleeve for long-lasting shaft seal and shaft
- Meets requirements for IP65, IP67 and IP69K for 1200 psi wash-down

**Feedback Options**
- Single-turn, digital, absolute encoder
- Multi-turn, digital, absolute encoder
- Heidenhain encoder (option on VPC only)
- Single-turn, 1024 sin/cos, absolute encoder
- Multi-turn, 1024 sin/cos, absolute encoder
- N/A
- User-supplied

**Winding Voltage**
- 480V Class Windings
- 200V and 480V Class Windings
- 200V Class Windings
- 200V and 400V Class Windings

**More Information**
For the most up-to-date information on our full range of servo motors, visit: www.ab.rockwellautomation.com/Motion-Control/Servo-Motors
### Actuators and Independent Cart Technology

**Overview**

- Electric Cylinders are compact, lightweight, high force actuators that serve as an alternative to pneumatic and hydraulic solutions. Our ready-to-install electric cylinders are energy-efficient and help provide machine flexibility, including precise, multipoint positioning. Industry-standard mountings and end effector attachments help simplify your assembly and reduce mechanical design engineering, wiring, and commissioning time.

- LDAT Integrated Linear Thrusters provide high-speed, load-bearing linear motion out-of-the-box and are capable of pushing, pulling, or carrying a load. They use direct drive technology to help maximize performance and reliability.

- The iTRAKIndependent cart system is a modular, scalable linear motor system that allows for independent control of multiple axes on straight or curvilinear paths. The iTRAK system uses the machine designer from the constraints of mechanical cam design, so that they can focus on the process, the programming and game-changing innovation.

- MagnetoLITE is an intelligent and highly cost-effective vector system specifically designed to move light loads quickly and efficiently. MDLITE outperforms conventional belt and chain conveyors. Linear motor technology and for demanding motion requirements, delivering new levels of process optimization and throughput.

- QuickStick® to the Intelligent Conveyor System that offers increased throughput and a lower cost of ownership, providing a faster, cleaner, and more efficient alternative to pneumatics and hydraulics. Linear motor technology enables modules to be configured end-to-end, creating an assembly line to project carries up to 10 times faster than traditional systems.

### Key Features

- **Flexible, efficient servo controlled actuation**
- **Extend and retract with precise positioning**
- **Velocity or force**
- **Extend and retract with precise positioning, velocity or force**
- **Flexible positioning for parts, tools, set works, etc.**
- **Dynamic, precise response for a wide range of linear motion applications**
- **Available in multiple frame sizes**
- **Continuous force 240-7784 N | 54-1750 lbs**
- **Peak force to 14500 N | 3300 lbs**
- **Available in standard 400 mm lengths**
- **Straight and 90° curve linear motor sections available in standard 400 mm lengths**
- **Different force ratings available with various coil configurations to any length**
- **Operate faster with less downtime**
- **Reduce energy consumption through direct drive**
- **Operate faster with less downtime**
- **Intelligent motion**
- **Process optimization tools simplify system design**
- **Complete traceability at all times**
- **Flexible layouts**
- **Easy to clean and maintain up to IP65 wash-down**
- **Intelligent motion**
- **Process optimization tools simplify system design**
- **Complete traceability at all times**
- **Flexible layouts**
- **Less maintenance with fewer moving parts**
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- **Less maintenance with fewer moving parts**
- **Flexible layouts**
- **Easy to clean and maintain up to IP65 wash-down**

### Force Rating

- **Continuous force 240-7784 N | 54-1750 lbs**
- **Peak force to 14500 N | 3300 lbs**

### Speed Rating

- **Up to 1 m/s**
- **Up to 5 m/s**

### Feedback Options

- **Absolute high-resolution multi-turn feedback**
- **Incremental TTL or Absolute Hiperface**
- **Absolute feedback**
- **Feedback Resolution < 10 µm**

### Winding Voltage

<table>
<thead>
<tr>
<th>Voltage Type</th>
<th>200V and 400V Class Windings</th>
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<th>400V Class Windings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
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<td>400V</td>
<td>400V</td>
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</tbody>
</table>
**Overview**

PowerFlex 755T AC Drives

- Offers precise motor control along with solutions for regeneration (PowerFlex 755TR), harmonic mitigation (PowerFlex 755TL), and flexible common DC bus configurations (PowerFlex 755TM). TrueFORCE™ technology, our patented field-oriented control for accurate torque control, delivers fast, precise, responsive control of position, velocity, and torque.

- Designed for flexibility, connectivity, productivity. Provide an exceptional user experience, from initial programming through operation and maintenance. Offering more selection for control, communications, safety and supporting hardware options than any other drives in their class, PowerFlex 755T series AC drives provide the features you need to help maximize your productivity.

PowerFlex 750-Series AC Drives

- These compact variable frequency drives combine innovation and a wide range of options to provide motor control solutions designed to maximize your system performance and reduce your time to design and deliver better machines. The PowerFlex® 520, PowerFlex 525 and PowerFlex 527 each offer a unique set of features to distinctively match the needs of your application.

- Ideal for general purpose applications such as fans, pumps, and compressors. Suitable for new and retrofit, variable torque and constant torque applications. Deliver an easy-to-use and simplified user experience.

PowerFlex 6000 Medium Voltage Drives

- PowerFlex 6000 Medium Voltage Drives are designed for flexibility, connectivity and productivity. Provide an exceptional user experience, from initial programming through operation and maintenance. Offering more selection for control, communications, safety and supporting hardware options than any other drives in their class, PowerFlex 6000 series AC drives provide the features you need to help maximize your productivity.

- Ideal for general purpose applications such as fans, pumps, and compressors. Suitable for new and retrofit, variable torque and constant torque applications. Deliver an easy-to-use and simplified user experience.

PowerFlex 7000 Medium Voltage Drives

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- Ideal for general purpose applications such as fans, pumps, and compressors. Suitable for new and retrofit, variable torque and constant torque applications. Deliver an easy-to-use and simplified user experience.

**Key Features**

- **Reduce energy costs with regeneration**
- **Regulate active and reactive power to correct power factor**
- **Designed to meet the IEEE 519 standard**
- **Keep your equipment running throughout power quality disturbances with active front-end and side-through control**
- **Reduce commissioning time and mechanical wear with Load Observer and Adaptive Tuning**
- **Flexible slot-based hardware architecture allows you to select option modules for safety, feedback, communications and I/O**
- **Modular design provides for easy installation and maintenance**
- **Predictive diagnostics help reduce unplanned downtime and improve productivity**
- **Compact**
- **Available with conformal coating to help protect in harsh environments**

**PowerFlex 755T AC Drives**

- **PowerFlex 755T**
  - **PowerFlex 755T AC Drives**: Built-in dual ports for EtherNet/IP and support for additional industrial networks.
  - **PowerFlex 755T**: Optional single or dual port Ethernet/IP and additional industrial networks.
  - **PowerFlex 755T**: Built-in port for EtherNet/IP, support for additional industrial networks.

**PowerFlex 750-Series AC Drives**

- **PowerFlex 750**: Optional single or dual port Ethernet/IP and additional industrial networks.
- **PowerFlex 750**: Built-in port for EtherNet/IP.
- **PowerFlex 750**: Built-in dual ports for EtherNet/IP.

**PowerFlex 520-Series AC Drives**

- **PowerFlex 520**: Built-in port for EtherNet/IP.
- **PowerFlex 520**: Optional dual port EtherNet/IP.
- **PowerFlex 520**: Built-in dual ports for EtherNet/IP.

**PowerFlex 527**: Built-in Safe Torque Off – hardwired or network options.


**PowerFlex 523**: Optional dual port EtherNet/IP.

**Ratings**

- **PowerFlex 755T**
  - **PowerFlex 755T**: 200-240V: 0.37-132 kW/0.5-200 Hp/2.2-477 A
  - **PowerFlex 755T**: 500-575V: 1.1-1875 kW/1.5-2500 Hp/4.7-6250 A
  - **PowerFlex 755T**: 690V: .75-1500 kW/1.2-1875 Hp/2.2-4770 A

- **PowerFlex 750**
  - **PowerFlex 750**: 200-240V: 0.37-132 kW/0.5-200 Hp/2.2-477 A
  - **PowerFlex 750**: 500-575V: 1.1-1875 kW/1.5-2500 Hp/4.7-6250 A
  - **PowerFlex 750**: 690V: .75-1500 kW/1.2-1875 Hp/2.2-4770 A

- **PowerFlex 520**
  - **PowerFlex 520**: 200-240V: 0.37-132 kW/0.5-200 Hp/2.2-477 A
  - **PowerFlex 520**: 500-575V: 1.1-1875 kW/1.5-2500 Hp/4.7-6250 A
  - **PowerFlex 520**: 690V: .75-1500 kW/1.2-1875 Hp/2.2-4770 A

- **PowerFlex 527**
  - **PowerFlex 527**: 200-240V: 0.37-132 kW/0.5-200 Hp/2.2-477 A
  - **PowerFlex 527**: 500-575V: 1.1-1875 kW/1.5-2500 Hp/4.7-6250 A
  - **PowerFlex 527**: 690V: .75-1500 kW/1.2-1875 Hp/2.2-4770 A

- **PowerFlex 525**
  - **PowerFlex 525**: 200-240V: 0.37-132 kW/0.5-200 Hp/2.2-477 A
  - **PowerFlex 525**: 500-575V: 1.1-1875 kW/1.5-2500 Hp/4.7-6250 A
  - **PowerFlex 525**: 690V: .75-1500 kW/1.2-1875 Hp/2.2-4770 A

- **PowerFlex 523**
  - **PowerFlex 523**: 200-240V: 0.37-132 kW/0.5-200 Hp/2.2-477 A
  - **PowerFlex 523**: 500-575V: 1.1-1875 kW/1.5-2500 Hp/4.7-6250 A
  - **PowerFlex 523**: 690V: .75-1500 kW/1.2-1875 Hp/2.2-4770 A

**Safety**

- **Safe-Speed Monitor option**
- **Safe Torque OFF - hardwired or network options**

**Logic Integration**

- **Premier Integration into Logix control environment**

**Communications**

- **Built-in dual ports for EtherNet/IP and support for additional industrial networks**

**More Information**

To see our full range of PowerFlex AC drives and for more information on these products, visit: www.abrockwellautomation.com/Drives
## Motor Control Devices At-A-Glance

### CENTERLINE 2100 NEMA Motor Control Centers (MCCs)
- **Overview**: Our industry-leading MCC meets UL and NSD standards and offers solutions for networking and communications, and safety.
- **Key Features**:
  - Offers proven technology for high quality and years of dependable service
  - Provides consistent design to allow for easy expansion
  - Includes center-mounted bus design to improve head disruption
  - Provides solid grounding systems to help reduce shock hazards
  - Includes high density fixed units when floor space is limited
  - Offers a variety of intelligent motor control options
- **Rating**
  - Up to 600V, 600-3200 A
  - 2400V-690V, 400-800 A

### CENTERLINE 2500 IEC Motor Control Centers (MCCs)
- **Overview**: By combining a smaller footprint and comprehensive type testing, the CENTERLINE 2500 MCCs help meet the global demand for factory ready, space, energy, and cost-efficient motor control solutions.
- **Key Features**:
  - Includes arc-resistant baffles for PowerFlex® arc-resistant product designs
  - Provides remote access to data to minimize the need to approach the MCC
- **Rating**
  - Up to 690V, 800-4000 A

### CENTERLINE 1500 Medium Voltage Motor Control Centers (MCCs)
- **Overview**: Available in various control forms in high density with proven technology for high quality and years of dependable service. CENTERLINE 1500 MCCs are designed for networking and communications, and safety.
- **Key Features**:
  - Offers Type 2B accessibility
  - Provides a variety of intelligent motor control options
- **Rating**
  - 2500 MCCs help meet the global demand for comprehensive type testing, the CENTERLINE MCC standards and offer solutions for networking and communications.

### Communications
- **Overview**: Offers EtherCAT® and additional industrial networks.
- **Options**
  - Options for EtherCAT® and additional industrial networks
  - Options to include IntelliCENTER® software which provides access to operating data and troubleshooting to help reduce downtime and lower total cost of ownership.
- **More Information**
  - For the most up-to-date information on our full range of motor protectors, visit: [http://ab.rockwellautomation.com/motor-control](http://ab.rockwellautomation.com/motor-control)

### More Information
- For more information: [rok.auto/ia](http://rok.auto/ia)
## Operator Interfaces At-A-Glance

### PanelView 5000

<table>
<thead>
<tr>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available in Standard and Performance versions with display sizes from 4-15 in. with widescreen options. Use FactoryTalk®View Machine Edition to build your application and help simplify configuration and strengthen your integrated Architecture® solution. Includes Ethernet connectivity enabling remote monitoring with HMI connectivity.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance models: Designed for all applications, ranging from small to large, complex machines.</td>
</tr>
<tr>
<td>Standard version available in Standard and Performance versions with display sizes from 7-19 in. with wide screen, touch, and keypad options.</td>
</tr>
<tr>
<td>Space-saving, modern design with display sizes from 7-19 in. with wide screen, touch, and keypad options.</td>
</tr>
</tbody>
</table>

### MobileView

- 10 in. wide display (1280 x 800) with resistive touch screen for easy viewing
- Provides mobility without generating unintended E-stops
- Offers cost-effective touch client mobile terminal
- Internal SD card for application and data log storage
- Second generation MobileView terminal offers all the mobility features of the first generation product with the addition of an illuminated E-stop, ability to work with the IP55 junction box, and the option to be used as a thin client.
- IP55 Junction Box works with the second generation MobileView terminal to provide an On-machine visualization solution.
- E-stop bridging allows the MobileView terminal to be unplugged from the IP55 junction box without tripping the E-stop circuit.
- Box ID feature provides location awareness, which allows the MobileView terminal to know where on the manufacturing line it's located.

### PanelView Plus 7

- With an intuitive, modern design, the PanelView™ Plus family provides enhanced Logic integration using Studio 5000 View Designer software. This integration allows engineers to enter configuration information once and use it for the entire automation design.
- Mobile graphic terminals that help increase operator productivity and provide a safe production environment. The mobile operator interface runs the Windows Embedded Standard 7 operating system, but allows reuse of FactoryTalk® View ME and FactoryTalk® View Studio applications to help reduce development costs.

## Display Options and Viewing Area Dimensions

<table>
<thead>
<tr>
<th>Display Type</th>
<th>Color TFT LCD, 10-Bit Color Graphics</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 in. (101.6 x 254 mm)</td>
<td>4 in. (101.6 x 254 mm)</td>
</tr>
<tr>
<td>7 in. (177.8 x 140.2 mm)</td>
<td>7 in. (177.8 x 140.2 mm)</td>
</tr>
<tr>
<td>10 in. (254 x 190.5 mm)</td>
<td>10 in. (254 x 190.5 mm)</td>
</tr>
<tr>
<td>12 in. (304.8 x 228.6 mm)</td>
<td>12 in. (304.8 x 228.6 mm)</td>
</tr>
</tbody>
</table>

## Display Type

- Color TFT LCD, 24-bit Color Graphics (16.7 million colors), Light-emitting diode backlight, wide-screen versions
- Color resolution: WXGA/1280 x 800 pixels, Resistive Touch Screen
- TFT touch screen, wide LCD

## Internal Storage

- 512 MB storage
- 500 MB internal storage
- 4 GB SD memory / 12 GB Flash / 2 GB SD Card
- 256 MB internal memory
- 2 GB SD Card
- 100 screens, 1000 alarms
- 1 controller, 100 screens, 1000 alarms
- Software assignable function keys with either a hardwired momentary push button or key switch
- Second generation MobileView terminal offers all the mobility features of the first generation product with the addition of an illuminated E-stop, ability to work with the IP55 junction box, and the option to be used as a thin client.
- IP55 Junction Box works with the second generation MobileView terminal to provide an On-machine visualization solution.
- E-stop bridging allows the MobileView terminal to be unplugged from the IP55 junction box without tripping the E-stop circuit.

## Input Power Options

- DC (18-30V DC)
- DC (18-30V DC) and AC (100-240V AC)
- 24V DC power (18-30V DC)
- 24V DC
- 240 VAC
- 120/240V AC

## Communications

- Ethernet ports supporting star, linear, or dual network topologies
- Dual Ethernet ports supporting star, linear, or dual network topologies
- Dual Ethernet ports supporting dual links (Device Level Ring)
- Dual Ethernet ports supporting dual links (Device Level Ring)
- Ethernet port with DLR, linear, or star network topologies
- Dual Ethernet port supporting DLR, linear, or star network topologies
- Dual Ethernet port with DLR, linear, or star network topologies
- Dual Ethernet port with DLR, linear, or star network topologies

## Environmental

- NEMA 12/13, IP55, IP66, 0-55 °C (32-131 °F)
- NEMA and UL Type 12, 13, 4X, also rated IP65 as Classified by UL, 0-55 °C (32-131 °F), NEMA and IP66, NEMA 4X, 12, 13
- Rated IP55/0.45 °C (32-131 °F), NEMA 4X, 12, 13
- PanelView 5000
- PanelView Plus 7
- PanelView 800

## More Information

For the most up-to-date information on our full range of operator interfaces, visit: [http://ab.rockwellautomation.com/Graphic-Terminals](http://ab.rockwellautomation.com/Graphic-Terminals)

For more information: rok.auto/ia
## Computers At-A-Glance

### Overview

**Integrated Display**
The VersaView 5400 open architecture Thin Client computer and VersaView 5300 displays with ThinManager® thin client version offer a modern, small footprint with multiple mounting options.

**Non-Display**
The VersaView 5400 Non-Display computer, VersaView 5300 and ThinManager® Thin Client offer a modern, small footprint with multiple mounting options.

### Key Features

**Integrated Display Computers**
- Projected capacitive multi-touch
- Performance: Quad Core Intel Atom
- Storage: 128 GB SSD
- Operating Systems: 64-bit Windows
- DC Power

**Non-Display Thin Client**
- More compact design targeted for cost-conscious applications
- Single DisplayPort video output

**Dual Display Thin Client**
- Single core Intel Atom CPU to meet standard application needs
- Single DisplayPort video output

**Multi-4K Display Thin Client**
- High performance quad core Intel CPU for demanding applications (complex virtual screens, multimedia, multiple IP camera feeds and more)
- Dual 4K Display, 1x DisplayPort, 1x HDMI

### Software

**Ideal open architecture platform for use with FactoryTalk View, or with Rockwell Automation ThinManager software for Thin Client architectures.**

**VersaView 5000**

- Operates in 0-50 °C (32-122 °F)
- CULus listed, CE, EAC, KC, RCM

**Non-Display**
- Operates in 0-50 °C (32-122 °F)
- CULus listed, CE, EAC, KC, RCM

**Monitors**
The VersaView 5300 monitors include a modern, edge-to-edge glass display, projected capacitive multi-touch touch screens and multiple display inputs.

### Standards & Environment

- **APC**
- **Intel**
- **Windows**
- **Linux**
- **Server**
- **RAID**

### More Information

For more information on these products, visit [http://ab.rockwellautomation.com/Computers](http://ab.rockwellautomation.com/Computers).

For more information: [rok.auto/ia](http://rok.auto/ia)
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<tr>
<td>Stratix 5410 Distribution Switch</td>
<td>Distribution switches that offer a 19&quot; rack-mount design for increased port density. These switches offer auto 10 GigE Ethernet ports and network Address Translation capabilities for networks where high performance is critical.</td>
<td><strong>19&quot; rack-mount design for increased port density</strong></td>
<td><strong>8, 12, 16, and 20 port versions</strong></td>
<td>Yes</td>
<td>Not supported</td>
<td><strong>Port control in Logix</strong>&lt;br&gt;<strong>Access Control List (ACL)</strong>&lt;br&gt;<strong>EIB/IEC 61800 Security</strong>&lt;br&gt;<strong>Controlled Authorization Capability (BADHEL, TACACE)</strong>&lt;br&gt;<strong>MAC ID/port security</strong></td>
<td><strong>Premiere integration to integrated architecture including Studio 5900 Add-on Profile for configuration and monitoring</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Supports all managed switch versions</td>
</tr>
<tr>
<td>Stratix 5400 Managed Switch</td>
<td>Managed switches that support layer 2 switching and layer 3 routing with PoE and fiber (SFP) at all-Gb port options.</td>
<td><strong>Layer 2 switching and layer 3 routing for the scalability to scale multi-layer network configurations</strong></td>
<td><strong>Discovery of plant floor assets using multiple discovery protocols including CIP, SNMP, DNP3, and PROFINET</strong></td>
<td>Yes</td>
<td>Optional</td>
<td><strong>Port security helps disable ports in control and device connectivity</strong>&lt;br&gt;<strong>FrameRelay for Stateful Inspection</strong>&lt;br&gt;<strong>Inline Transparent/switched mode</strong>&lt;br&gt;<strong>Passive filter - any mode</strong>&lt;br&gt;<strong>Firewall services for threat detection and prevention</strong>&lt;br&gt;<strong>Network Address Translation (NAT)</strong>&lt;br&gt;<strong>Remote Access</strong></td>
<td><strong>Add-on Profile for configuration via Studio 5900® and FactoryTalk®View 360</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Stratix 5800 Managed Switch</td>
<td>Modular managed switch for maximum flexibility to support combinations of copper, fiber and PoE ports. Supports layer 2 switching and layer 3 routing in all-Gb platform.</td>
<td><strong>Layer 2 switching and layer 3 routing options</strong></td>
<td><strong>6, 10, 18, and 20 port versions</strong></td>
<td>Not supported</td>
<td>Not supported</td>
<td><strong>Discovery of plant floor assets using multiple discovery protocols including CIP, SNMP, DNP3, and PROFINET</strong></td>
<td><strong>Premiere integration to integrated architecture including Studio 5900 Add-on Profile for configuration and monitoring</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Supports all managed switch versions</td>
</tr>
<tr>
<td>Stratix 8000 and 8300 Managed Switches</td>
<td>Modular managed switches that use Cisco operating system tools that are familiar to IT professionals and provide secure communication with the enterprise network.</td>
<td><strong>Copper, Fiber, SFP and Power over Ethernet (PoE) expansion modules</strong></td>
<td><strong>Discovery of plant floor assets using multiple discovery protocols including CIP, SNMP, DNP3, and PROFINET</strong></td>
<td>Not supported</td>
<td>Not supported</td>
<td><strong>Port security helps disable ports in control and device connectivity</strong>&lt;br&gt;<strong>FrameRelay for Stateful Inspection</strong>&lt;br&gt;<strong>Inline Transparent/switched mode</strong></td>
<td><strong>Premiere integration to integrated architecture including Studio 5900 Add-on Profile for configuration and monitoring</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Supports all managed switch versions</td>
</tr>
<tr>
<td>Stratix 7500 Managed Switch, ArmorStratix 5700 Managed Switch</td>
<td>Compact and scalable managed layer 2 switch for small to medium-size industrial applications. The ArmorStratix 5700 is a low-cost, high-performance IP networking solution.</td>
<td><strong>Copper, Fiber, SFP and Power over Ethernet (PoE) expansion modules</strong></td>
<td><strong>Discovery of plant floor assets using multiple discovery protocols including CIP, SNMP, DNP3, and PROFINET</strong></td>
<td>Not supported</td>
<td>Not supported</td>
<td><strong>Port security helps disable ports in control and device connectivity</strong>&lt;br&gt;<strong>FrameRelay for Stateful Inspection</strong>&lt;br&gt;<strong>Inline Transparent/switched mode</strong></td>
<td><strong>Premiere integration to integrated architecture including Studio 5900 Add-on Profile for configuration and monitoring</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Supports all managed switch versions</td>
</tr>
<tr>
<td>Stratix 2500 Lightly Managed Switch</td>
<td>Lightly managed switches that enable network connectivity in applications where traditional unmanaged switches lack the ability to provide diagnostics and security.</td>
<td><strong>Copper, Fiber, SFP and Power over Ethernet (PoE) expansion modules</strong></td>
<td><strong>Discovery of plant floor assets using multiple discovery protocols including CIP, SNMP, DNP3, and PROFINET</strong></td>
<td>Not supported</td>
<td>Not supported</td>
<td><strong>Port security helps disable ports in control and device connectivity</strong>&lt;br&gt;<strong>FrameRelay for Stateful Inspection</strong>&lt;br&gt;<strong>Inline Transparent/switched mode</strong></td>
<td><strong>Premiere integration to integrated architecture including Studio 5900 Add-on Profile for configuration and monitoring</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Supports all managed switch versions</td>
</tr>
<tr>
<td>Stratix 2000 Unmanaged Switch</td>
<td>Unmanaged switches are ideal for small control networks. These industrial-grade switches do not require any configuration and use simple cable connections.</td>
<td><strong>Copper, Fiber, SFP and Power over Ethernet (PoE) expansion modules</strong></td>
<td><strong>Discovery of plant floor assets using multiple discovery protocols including CIP, SNMP, DNP3, and PROFINET</strong></td>
<td>Not supported</td>
<td>Not supported</td>
<td><strong>Port security helps disable ports in control and device connectivity</strong>&lt;br&gt;<strong>FrameRelay for Stateful Inspection</strong>&lt;br&gt;<strong>Inline Transparent/switched mode</strong></td>
<td><strong>Premiere integration to integrated architecture including Studio 5900 Add-on Profile for configuration and monitoring</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Supports all managed switch versions</td>
</tr>
<tr>
<td>Stratix 9550 Security Appliance</td>
<td>Security appliances combine several essential security functions into a single appliance to help protect your industrial automation infrastructure.</td>
<td><strong>Copper, Fiber, SFP and Power over Ethernet (PoE) expansion modules</strong></td>
<td><strong>Discovery of plant floor assets using multiple discovery protocols including CIP, SNMP, DNP3, and PROFINET</strong></td>
<td>Not supported</td>
<td>Not supported</td>
<td><strong>Port security helps disable ports in control and device connectivity</strong>&lt;br&gt;<strong>FrameRelay for Stateful Inspection</strong>&lt;br&gt;<strong>Inline Transparent/switched mode</strong></td>
<td><strong>Premiere integration to integrated architecture including Studio 5900 Add-on Profile for configuration and monitoring</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Supports all managed switch versions</td>
</tr>
</tbody>
</table>
Ethernet Media At-A-Glance

# Overview

Ethernet Cable Spools help supply a reliable network connection in harsh surroundings. We offer unshielded twisted pair, shielded twisted pair, and 600V cables.

## Products include:
- Patch cords and cord sets, field attachable connectors, crimp connectors and bulkhead adapters.
- Our On-Machine™ cables have an IP67 over molded connector and twisted pair cable designed for high flex applications and provide better performance in applications with noise and vibration.

## Key Features

- **Four- and eight-conductor styles**
- **Shielded or Unshielded**
- **Twisted pairs maintain signal balance through cable** to provide high noise immunity and return loss
- **Riser polyvinylchloride (PVC) cables used for general-purpose environments**
- **Red cable jacket option to identify safety networks**
- **600V variant On-Machine™ rated cable for use in a cable tray shared with high voltage power cables**

## More Information

To see our full range of ethernet network media and for more information on these products, visit: [http://ab.rockwellautomation.com/Connection-Devices/EtherNet-Media](http://ab.rockwellautomation.com/Connection-Devices/EtherNet-Media)

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### DOING BUSINESS GLOBALLY

Rockwell Automation stands ready to serve you from more than 80 sales, service and support locations around the world.

To find your nearest Sales office, visit: [www.rockwellautomation.com/rockwellautomation/distributor-locator/sales-locator.page](http://www.rockwellautomation.com/rockwellautomation/distributor-locator/sales-locator.page)
MINIMIZING RISK. MAXIMIZING PRODUCTIVITY.

For more information about how we can help you solve your unique business challenges, contact your local authorized Allen-Bradley distributor or Rockwell Automation sales office, or visit: rok.auto/services
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