Integrated Architecture
Real-time Control and Information Delivering
Smart Manufacturing, Machines and Equipment
DELMIVER THE CONNECTED ENTERPRISE

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: www.rockwellautomation.com/go/ia

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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
Better lifecycle management, enabling more effective operations, improved energy management and easier technology migration.

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 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.

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.

The Connected Enterprise
Bringing People, Processes and Technology Together.
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: www.rockwellautomation.com/go/ia
SCALABLE ARCHITECTURE

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.

For more information: www.rockwellautomation.com/go/ia
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, leaner production and greater return on investment.

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.

Industrial Safety Solutions
Our expertise, experience and technologies have established us as the world leader in industrial safety. Our functional safety solutions for machine, process and electrical safety applications can be tailored to the required safety Performance Level (PL) and help to reduce injuries and costs, while they improve productivity.

Motor and Motion Control
Our portfolio extends from fixed speed starters, through variable frequency drives for a wide range of applications, to high-performance, multi-axis servo drives for the most demanding applications.

Manufacturing: Production Intelligence
Our visualization products provide windows into critical production and process information and enterprise data. Across every type of industry, application and manufacturing environment, these products help to enhance decision-making and operational efficiency.

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.

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.

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.

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.

For more information: www.rockwellautomation.com/go/ia

Smarter Technology
Scalable Architecture

For more information: www.rockwellautomation.com/go/ia
**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.

**AUTOMATION DESIGN PRODUCTIVITY**

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.

The Integrated Architecture offers 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.

**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

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**For more information:**

www.rockwellautomation.com/go/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.

Automation Design Productivity

View Designer
Application Code Manager
Logix Designer
Architect
Arena Simulation

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: www.rockwellautomation.com/go/ia
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.

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.

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

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

Solution
Enhancing 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: www.rockwellautomation.com/go/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.

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.

Productivity Improvements

FactoryTalk® TeamONE™ mobile application 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.

Manufacturing Intelligence and Operations Management

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.

Manufacturing Execution Systems

Our MES solutions enable you to better provide standardized workflows, and manage procedures and execution to optimize production operations.

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.

Manufacturing Intelligence and Operations Management

Enhanced Productivity

For more information: www.rockwellautomation.com/go/ia

For more information: www.rockwellautomation.com/go/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**
  Protect valuable control system content 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: www.rockwellautomation.com/go/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: www.rockwellautomation.com/go/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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Defining Strategies for Improvement
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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 your equipment and improve your overall financial performance.

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.

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.

Secure Environment

Reduce Risk and Create Value Throughout Your Production Lifecycle

Profitable Partnership

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: www.rockwellautomation.com/go/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.

Programmable Automation Controllers
- Modular and scalable systems
- Process, batch, discrete, drives, safety and motion control
- High-availability
- I/O, 2 and 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

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

Energy Monitoring
- Energy monitoring on the EtherCAT/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

RFID and Sensing
Radio Frequency Identification (RFID) System
- Ideal for tracking and tracing products as they move through the manufacturing process
- 1- and 2-channel EtherCAT/IP interface available
- Embedded switch, with Device Level Ring (DLR)
- Rugged for industrial locations

Sensors
- Smart Sensors with IO-Link serve as an enabling technology for The Connected Enterprise
- IO-Link technology provides seamless integration of sensors through The Integrated Architecture
- Multiple master options and a wide range of IO-Link enabled smart sensors available

Light Curtain
- Ethernet connectivity for software configurable and G3R single-function safety relays
- The 440C-CR30 software configurable safety relay can share information with the control system through the optional EtherCAT/IP plug-in module
- Intelligent Guardmaster™ safety relays offer network connectivity via the optional 440R-ENET EtherCAT/IP Interface

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 count, maintenance and motor wear

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

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
- Linear actuators and stages for flexible servo control

Operator Interfaces and Industrial Computers
- Extreme environment computers
- ATEX and UL-rated for hazardous locations
- Industrial environment, non-display and integrated display computers
- Designed for application flexibility

Industrial Networks Infrastructure and Ethernet Media
Stratix Switches
- Managed Ethernet switches use the Cisco® Catalyst® Operating System
- Variety of features for both IP and manufacturing environments
- Unmanaged Ethernet switches are ideal for small, isolated networks

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

For more information: www.rockwellautomation.com/go/ia
Rockwell Software® offers a complete suite of software tools to help deliver efficiency and deliver value across your Connected Enterprise.

**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. With the Studio 5000 environment, you can respond more quickly to changing market and business needs, while reducing total costs of ownership, including maintenance and training.

- Use one design and configuration package
- Simplify development of complex control solutions
- Have greater access to real-time information
- Develop applications in a single control platform and collaboration environment

**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.

**Connected Components Workbench™** software is the configuration, programming and visualization software that simplifies standalone machine development with one software solution. It offers easy programming for Micro800 controllers with the PanelView 800 HMI editor integration and PowerFlex drives configuration.

**Visualization and Collaboration**

FactoryTalk® View SE
A supervisory-level HMI software for monitoring and controlling distributed server multi-user applications.

FactoryTalk® View ME
A versatile HMI application that provides a dedicated and powerful solution for machine-level operator interface devices.

FactoryTalk® ViewPoint
On the road, at home or in the office, provides a secure interface with FactoryTalk® View’s graphics, trending, and alarming applications through a web browser. Extends access to users anywhere for improved real-time decision making.

**Manufacturing Intelligence and Analytics**

FactoryTalk® VantagePoint™ EMI
Manufacturing information delivered when you need it, the way you want it to see it to make informed decisions. Gain real insight into your production information via any mobile device or view web-based reports and KPI dashboards.

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

**FactoryTalk® EnergyMetrIX™ 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 exporting automation related asset information across your entire facility. It can improve uptime, productivity, quality, employee safety or regulatory compliance.

**Manufacturing Execution Systems (MES)**

MES software provides standardized workflows, execution. This improves operational efficiencies while helping ensure regulatory compliance and the highest level of quality.

**ERP Integration Gateway**

A cost-effective application that aligns manufacturing operations with the business processes and information housed in Enterprise Resource Planning (ERP) and other business systems.

**Process**

PlantPAx® 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-88 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, warehouse and integrate via a powerful modeling engine.

For more information: www.rockwellautomation.com/go/ia
# Programmable Automation Controllers At-A-Glance

## Overview

Logix programmable automation controllers use a common control engine with a common development environment to provide high performance in an easy-to-use environment. ControlLogix™ controllers are ideal for more demanding applications and can perform standard and safety control in the same chassis for a truly integrated system and leverage the high availability and extreme environment capabilities to meet your application needs.

CompLogix 5480 Controller offers the benefits of Logix control with Windows®-based computing with a commercially available CPU and a Windows 10 IoT Enterprise operating system running in parallel to the Logix control engine. It provides a high-performance architecture with the ability to run third-party applications and key features.

Logix programmable automation controllers use a common control engine with a common development environment to provide high performance in an easy-to-use environment. CompactLogix™ controllers are ideal for small to mid-size machines and provide the benefits of Integrated Architecture for lower-cost machines in both standard and safety options.

Micro800™ controllers provide a customized solution with basic control for standalone machines. Available in different form factors, these micro controllers are open to make a smart, productive, secure solution throughout all phases of the machine lifecycle. They can communicate with all the CompactLogix Controllers, compatible with the same accessories, plug-in and expansion I/O modules and allow machine builders to personalize the controller for specific capabilities.
## Input/Output (I/O) Modules At-A-Glance

### Overview
- A full range of digital, diagnostic, analog, motion control, and specialty I/O. All 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.

Can be used as local and distributed I/O with ControlLogix 5370 Family of controllers. Rack type features in a valuable design lower costs and reduce replacement parts inventory.

The FLEX 5000 I/O is a cost-effective 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
- 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
- Removable terminal block or wiring interface module to connect all field-side wiring

### Communications
- Local chassis or in a chassis linked to a ControlLogix controller across ControlNet or EtherNet/IP
- Distributed on EtherNet/IP to CompactLogix 5380, CompactLogix 5480 or ControlLogix 5580 controllers

### I/O Types Offered

#### Digital
- Input, output, and combination modules
- Thermostatic and RTD modules

**Specialty**
- Configurable flowmeter modules
- High-speed counter modules
- Programmable time switch modules

**Isolated Analog HARD**
- Up to 16 points per card
- Isolated channel-to-channel isolation
- CARD works for channel-to-channel and isolated channel-to-channel

**Enhanced Analog**
- Isolated and non-isolated 12- and 16-channel modules with stability over the entire temperature operating range

**Compact 5000 Safety**
- Safety digital input/output blocks — single-channel and multi-channel
- Configurable safety output module (source/sink)

**FLEX 5000 Safety**
- Safety digital input/output modules — single-channel and multi-channel

**POINT Guard I/O Safety**
- Safety digital input/output modules — single-channel and multi-channel

**SIL 3 rated Safety modules.**

**Digital**
- Input, output, and relay output modules
- Wide variety of voltages

**Analog**
- Up to eight single-ended inputs or outputs per module

**Specialty**
- Counter and encoder modules
- Serial synchronous interface Absolute Encoder module
- Serial interface modules
- Address Resolution Module (ARM)
- EtherCAT master module

**POINT Guard I/O Safety**
- Digital input, digital output, and analog input and output modules and bipolar output modules
- Fail-safe certified safety I/O up to including SIL 3, C, Cat. 4

**For more information:**
- [www.rockwellautomation.com/go/ia](http://www.rockwellautomation.com/go/ia)

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### Key Features

- Comprehensive diagnostic for detection of both system and field-side failures
- Inherent time-stamping capabilities for Sequence Of Events applications
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- Removable terminal block or wiring interface module to connect all field-side wiring

### Communications
- Local chassis or in a chassis linked to a ControlLogix controller across ControlNet or EtherNet/IP
- Distributed on EtherNet/IP to CompactLogix 5380, CompactLogix 5480 or ControlLogix 5580 controllers

### More Information
- For the most up-to-date information on our full range of I/O modules and accessories visit: [www.rockwellautomation.com/go/ia](http://www.rockwellautomation.com/go/ia)
Input/Output (I/O) Modules At-A-Glance

1715 Redundant

Overview
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
- Supports several network topologies, including Device Level Ring (DLR) for enhanced resiliency
- Dual IP65 and IP67 ratings
- Safety outputs rated up to PLe (use with GuardLogix family)
- PLd-rated, single channel safety inputs
- 16-point combined I/O blocks

I/O Types Offered
- Digital: 16-channel input, 8-channel output
- Analog: 16-channel input, 8-channel output

Communications
- EtherCAT®: Supports several network topologies, including Device Level Ring (DLR) for enhanced network resiliency

More Information
For the most up-to-date information on our full range of I/O modules and accessories visit: ab.rockwellautomation.com/IO

ArmorBlock® Guard I/O™ Safety

Overview
ArmorBlock® U/I Modules are low-cost, hardened I/O that can be mounted on machines to help reduce wiring cost and enable easier maintenance. ArmorBlock® U/I can be used for automotive, material handling and packaging applications or for machinery applications where diagnostics and local control are not needed.

Key Features
- Supports several network topologies, including Device Level Ring (DLR)
- Dual IP65 and IP67 rated water- and corrosion resistant housing reduces maintenance costs
- Industry-standard connectors simplify wiring and improve Mean Time to Repair
- ARM Switch with Device Level Ring (DLR)
- Rotary switch to set IP address
- Self-configuring blocks with both input and output functionality
- Safety outputs rated up to PLe

I/O Types Offered
- Digital: 16-channel input, 8-channel output
- Analog: 16-channel input, 8-channel output

Communications
- EtherCAT®: Supports several network topologies, including Device Level Ring (DLR) for enhanced network resiliency

1719 Ex

Overview
Internally-safe 1719 Ex I/O solution that is mounted in Zone 2 or Division 2 and helps enable customers to integrate devices in hazardous Zones 0, 1 or Division 1 areas via EtherCAT® DP.

Key Features
- 8-channel output
- 16-channel input
- Suitable for simplex and duplex connections and fault tolerant applications
- Supports online module removal and replacement with no interruption of the signal inputs
- EtherCAT® DP: Supports several network topologies, including Device Level Ring (DLR) for enhanced resiliency

I/O Types Offered
- Digital: 8-channel input
- Analog: 8-channel input

Communications
- DeviceCat® or EtherCAT®

More Information
For the most up-to-date information on our full range of I/O modules and accessories visit: ab.rockwellautomation.com/IO

FLEX

Overview
FLEX™ I/O offers the functionality of larger rack-based I/O without the space requirements. It can help eliminate multiple long wiring runs, reduce terminations, decrease engineering and installation costs, cut down 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
- Assembles without tools - all components wrap 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

I/O Types Offered
- Digital: 8 to 32 points per module
- Analog: Individually configurable channels, selectable input filters
- Specialty: Frequency, HART 7 support standard on all analog modules

Communications
- EtherCAT®: Connects I/O, DeviceCat, DEVICENET, PROFINET® DP

More Information
For more information: www.rockwellautomation.com/go/ia
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 allocations, 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 wiring diagnostics
- Time of use (On-Peak, Off-Peak)
- Energy, max/min, status and load factor logs
- Ability to view data and configure through the integrated web page

**Options**
- I408-BE3A-ENT
  - Base consumption meter
- I408-TL3A-ENT
  - Communications + Volt/Current
- I408-EN3A-ENT
  - Energy management meter

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

**PowerMonitor 5000**

**Overview**
Next generation high-end, power quality metering 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
  - Harmonics
  - Outilography
  - Event Sync
- M6 – includes base model features, plus:
  - Harmonics
  - Outilography
  - Event Sync
  - Flicker
  - Interharmonics
  - Transient Detect
- M8 – includes base model features, plus:
  - Harmonics
  - Outilography
  - Event Sync
  - Flicker
  - Interharmonics
  - Transient Detect

**Accuracy levels**
- Class 0.2, 0.2% energy accuracy

**Outputs**
- Modbus RTU
- EtherCAT®
- KEI signal

**Communications**
- Available with EtherNet/IP, Serial DFI, Modbus RTU, EtherCAT® communications
- Includes native EtherCAT® 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

For more information: www.rockwellautomation.com/go/ia
Intelligent Devices At-A-Glance

Overview

IO-Link Technology is a worldwide open-standard protocol that integrates sensors into our Connected Enterprise by connecting the IO-Link enabled device into a control system in a very efficient manner. The flexibility of IO-Link capable sensors allows machines to operate more effectively by providing the controller with diagnostics. In addition to product detection, sensors provide detailed and accurate machine health status to improve uptime.

Key Features

- IP 67 Rated for outdoor or demanding environments
- Up to 250 Mbps data rate
- Supports a wide range of wire and optical fiber cabling
- InfraRed reflective sensing for long range
- EtherCAT® and EtherCAT® FIP (Flexible Interconnect for Ethernet) protocols supported
- Supports 10/100 Ethernet and 100G Ethernet
- Configurable via an integrated real-time 10 MHz clock
- Supports up to 48 sensors per hub
- DDR RAW Support
- Supports up to 128 Byte per sensor
- Supports bi-directional communication
- Supports data logging
- Supports data acquisition

Options

- EtherCAT® FIP Interface Blocks
  - 1 x 100 Base-TX ports plus I/O
- Transceivers
  - AS-Interface 30 x 90
  - Square 40 x 40
  - Cylindrical M10
  - Cylindrical M18
- Tags
  - Disc – 128 Byte with visible light beam for ease of alignment and industry-standard mounting
  - 45CRM Color Registration Mark Sensors have a high-speed response time and discern the difference in color between the mark and background
  - 45LMS Laser Measurement Sensors offer an excellent mid- to long-range measurement solution
  - 42JS and 42JT VisiSight™ Sensors offer a small rectangular package with a high-speed response time and discern the difference in color between the mark and background

Communications

1 and 2 channel Ethernet FIP interface available

More Information

For more information, visit: http://www.rockwellautomation.com/communications/IO-Link

Guardian 440C CR30 Software Configurable Safety Relay

Flexible, cost-effective, and easy to use. This relay is ideal for applications requiring as many as ten dual-channel safety circuits and controlling as many as five output zones. You can configure this relay by selecting certified safety function blocks to rapidly build your applications. This relay is integrated with Logic controllers and can be configured using the Studio 5000 Logix Designer application.

Guardmaster 440C Ethernet/IP Interface

Monitor a broad range of safety devices in a variety of applications. These single-function relays can achieve most of the functions safety systems require, to help simplify purchasing and parts management. These relays offer key functions to simplify installation and system complexity. In addition, information gathered from the GSR intelligent safety relays via the optional EtherCAT® interface helps minimize unplanned downtimes, increase efficiencies and enables The Connected Enterprise.

For more information:

For more information: www.rockwellautomation.com/go/ia
## Servo Drives At-A-Glance

### 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.
- **Kinetix 5500** servo drives connect to and operate with Logix controllers, supporting Integrated Motion on EtherNet/IP. With its innovative, compact design, the Kinetix 5500 drive helps minimize machine footprint and simplifies system wiring.
- **Kinetix 350** Single-axis EtherNet/IP servo drives provide scalability of Integrated Motion. Leveraging a single network, EtherNet/IP simplifies the integration of the entire system including HMI, programmable automation controller, I/O and motion.
- **Kinetix 300** EtherNet/IP Indexing servo drives provide cost-effective, co-ordinated motion control. EtherNet/IP™ communications are used for commissioning, configuration and start-up via standalone operation.

### Key Features
- **Kinetix 5700**
  - Features dual-axis modules
  - Controls servo and induction motors
  - Reduces wiring with single cable technology
  - Allows for tuning-less commissioning for most axes
  - Delivers 40% to 70% cabinet space savings
  - Supports optional encoder output module

- **Kinetix 5500**
  - Innovative common AC/DC bus helps reduce hardware, installation time and cost
  - Power terminations and simpler wiring
  - 60% less wiring with single cable feedback
  - Compact with optimised power density
  - Drive power ratings optimized to match VP
  - Low inertia motor family
  - Supports servo and induction motors
  - Supports optional encoder output module

- **Kinetix 350**
  - Studio 5000 motion instruction set including kinematics
  - Convenient compact size makes it easy to connect
  - Integrates seamlessly with MP-Series™ and TL-Series™ servo motors and actuators

- **Kinetix 300**
  - Supports five different index types and as many as 32 indices
  - Analog input control and step and direction control
  - Memory module for automatic device replacement
  - Programmable in Studio 5000 Logix Designer
  - Integrates with Logix controllers as part of The Integrated Architecture system
  - Integrates seamlessly with MP-Series and TL-Series servo motors and actuators

### Safety Level
- **Standard Kinetix 5700 Servo Drive**
  - Integrated Safe Torque Off: PLe, Cat 3 (ISO 13849), SIL CL 3 (IEC 61508, EN 61800-5-2, EN 62061)
  - Hardwired Safe Torque Off: PLe, Cat 3, SIL CL 3 (IEC 61508, EN 61800-5-2, EN 62061)

- **Advanced Safety Kinetix 5700 Servo Drive**
  - Network-based advanced safety
  - Certified PLe, SIL 3
  - Ability to monitor speed, direction, and position
  - Ability to perform controlled and monitored stops and perform zero speed monitoring

- **Kinetix 5500**
  - Hardwired Safety - Safe Torque Off
    - PLd, Cat. 3 (ISO 13849)
    - SIL CL 2 (IEC 61508, EN 61800-5-2, EN 62061)

- **Kinetix 350**
  - Hardwired Safety – Safe Torque Off
    - ISO 13849-1 Safety Performance Level d
    - IEC 61508 SIL 2

- **Kinetix 300**
  - Hardwired Safety – Safe Torque Off
    - Certified at ISO 13849-1 PLe, SIL 2, and requires an external safety relay to meet EN954-1, Cat. 3
    - Prevents drive restarts after the safety circuit is tripped

### Continuous Power
- **1.6-60 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

### 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)
- For more information: [www.rockwellautomation.com/go/ia](http://www.rockwellautomation.com/go/ia)
## Servo Motors At-A-Glance

### Overview
- **Kinetic VP Rotary**
  - Optimized to operate with the Kinetix 5300 family of servo drives, supporting Integrated Motion on EtherCAT/PROFIBUS. Based on proven MP technology, the dynamic performance of these motors offers the many benefits of a single cable for feedback, brake and power.
- **Kinetic MP Rotary**
  - Low-inertia, high-capacity 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, Kinetic®-VP, Kinetic® MP, and Kinetic® 150 servo drive families.
- **TL-Series Compact Rotary**
  - Low-inertia, high-performance servo motors for lighter industrial applications. Substantial power in a small footprint, with a high-torque density. Available with absolute encoder or 2000-line incremental encoder.
- **LDC & LDL Linear**
  - Linear motors provide you with the ability to increase your throughput and reliability as a result of their high-speed and acceleration capabilities and the reduction in mechanical transmission parts commonly found in applications that convert rotary to linear motion.

### Key Features
- **Kinetic VP Rotary**
  - 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 and IP67-rated connectors can be rotated without the use of tools
    - VPC – Continuous torque High continuous power applications up to 35 kVA Field replaceable ferrite

- **Kinetic MP Rotary**
  - Multi-turn feedback with battery backup available
  - Controls high-load-to-motor rotor inertia ratios while maintaining a stable system
  - Onboard memory retains motor identity
  - Serial communication automatically reports identity to the drive
  - 46 mm, 70 mm, 90 mm and 100 mm frame sizes
  - Integral 24V brake option
  - Model variants:
    - MPL – Low Inertia
    - MPM – Medium 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
    - MPS – Stainless steel Tightly sealed for maximum protection and corrosion resistance Hardened shaft wear sleeve for long-lasting shaft seal and shaft Seals IP66- and IP67-rated connectors can be rotated without the use of tools

- **TL-Series Compact Rotary**
  - Linear motors provide you with the ability to increase your throughput and reliability as a result of their high-speed and acceleration capabilities and the reduction in mechanical transmission parts commonly found in applications that convert rotary to linear motion.
  - Velocities up to 10 m/s and accelerations as high as 10 g
  - Precise linear positioning
  - No-wear parts such as bearings, gears, and belts
  - Full setup and programming support through Studio 5000 environments

### Torque/Force Rating
- **Kinetic VP Rotary**
  - VPL continuous 0.46 to 32 Nm (4 to 283 lb-in)
  - VPF continuous 0.93 to 19 Nm (8 to 172 lb-in)
  - VPC continuous up to 191 Nm (1,593 lb-in)

- **Kinetic MP Rotary**
  - MPL continuous 0.26 to 163 Nm (2 to 1440 lb-in)
  - MPM continuous 2 to 62 Nm (19 to 556 lb-in)
  - MPF continuous 2 to 19 Nm (14 to 172 lb-in)
  - MPS continuous 4 to 21 Nm (32 to 190 lb-in)

- **LDC & LDL Linear**
  - LDC Continuous 63 to 596 N or 14 to 134 lbf Peak 209 to 1977 N or 47 to 444 lbf
  - LDL Continuous 63 to 596 N or 14 to 134 lbf Peak 209 to 1977 N or 47 to 444 lbf

### Feedback Options
- **Kinetic VP Rotary**
  - Single-turn, digital, absolute encoder
  - Multi-turn, digital, absolute encoder
  - Heidenhan encoder (option on VPC only)

- **Kinetic MP Rotary**
  - Single-turn, 1024 in/cos, absolute encoder
  - Multi-turn, 1024 in/cos, absolute encoder

- **LDC & LDL Linear**
  - User-supplied

### Winding Voltage
- **Kinetic VP Rotary**
  - 400V Class Windings

- **Kinetic MP Rotary**
  - 200V and 400V Class Windings

- **LDC & LDL Linear**
  - 200V 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](http://www.ab.rockwellautomation.com/Motion-Control/Servo-Motors)

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For more information: [www.rockwellautomation.com/go/ia](http://www.rockwellautomation.com/go/ia)
**Actuators and Independent Cart Technology**

### Overview
- Electric Cylinders: 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, reducing precise, multi-point positioning. Industry-standard mountings and end effector attachments help simplify your assembly and reduce mechanical design engineering, wiring, and commissioning time.

### Key Features
- **Flexible, efficient servo controlled ideal actuation**
- **Extended and smooth with precise positioning, velocity or force**
- **Fully assembled, ready to install**
- **Clean, energy efficient alternative to fluid power**
- **Flexible positioning for parts, tools, set works, etc.**
- **Dynamic, precise response for a wide range to fluid power**
- **Fully assembled, ready to install**
- **Reduce energy consumption through direct drive**
- **iTRAK® Series Assembled Systems**
  - **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.**

### Force Rating
- **Continuous force** 240-7784 N (54-1750 lbs)
- **Peak force** 14500 N (3300 lbs)
  - 50 mm: 264 N
  - 100 mm: 529 N
  - 150 mm: 793 N

### Speed Rating
- **Up to 1 ms**
- **Up to 5 ms**
  - 50 mm: 3 ms
  - 100 mm: 4 ms
  - 150 mm: 2.75 ms
  - 150 mm: 793 N

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

### Winding Voltage
- **200V and 400V Class Windings**
  - 200V Class Windings
  - 400V Class Windings
  - 36V 100 N
  - 48V 400V

### More Information
For the most up-to-date information on our full range of actuators visit: [http://ab.rockwellautomation.com/Motion-Control/Actuator](http://ab.rockwellautomation.com/Motion-Control/Actuator)

For more information on iTrak® visit: [http://ab.rockwellautomation.com/GlobalSolutions/services/capabilities/motion/itrak](http://ab.rockwellautomation.com/GlobalSolutions/services/capabilities/motion/itrak)

For more information on intelligent conveyors visit: [www.magnemotion.com](http://www.magnemotion.com)

For the most up-to-date information on intelligent conveyors visit: [www.magnemotion.com](http://www.magnemotion.com)

For more information: [www.rockwellautomation.com/go/ia](http://www.rockwellautomation.com/go/ia)
AC Drives At-A-Glance

**PowerFlex 755T AC Drives**
- 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 755T AC drives provide the features you need to help maximize your productivity.

- **Communications**
  - PowerFlex 755 drives are the first drives to offer PowerFlex 755: Built-in port for EtherNet/IP; optional dual-port EtherNet/IP; support for additional industrial networks
- **Safety**
  - Safe Torque Off – hardwired or network options
- **Ratings**
  - 200-240V: 0.37-155 kW/0.5-200 Hp/2.1-477 A
- **Operating temperatures**
  - From -20 °C (-4 °F) up to 50 °C (122°F). Up to 70 °C (158 °F) with permanent magnet motors
- **Logic Integration**
  - PowerFlex 755 integration into Logix control environment
- **Communications**
  - EtherNet/IP, support for additional industrial networks

**PowerFlex 750-Series AC Drives**
- 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 750-Series AC drives provide the features you need to help maximize your productivity.

- **Communications**
  - PowerFlex 750 drives have the option to be programmed using motion instructions in the Studio 5000 Logix Designer application
- **Safety**
  - Safe Torque Off options
- **Ratings**
  - 200-240V: 0.2-15 kW/0.25-20 Hp/1.6-62.1 A
- **Operating temperatures**
  - From -20 °C (-4 °F) up to 50 °C (122°F).
- **Logic Integration**
  - PowerFlex 750 integration into Logix control environment
- **Communications**
  - EtherNet/IP, support for additional industrial networks

**PowerFlex 520-Series AC Drives**
- 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 520-Series AC drives provide the features you need to help maximize your productivity.

- **Communications**
  - PowerFlex 520 drives use the option to be programmed using motion instructions exclusively
- **Safety**
  - Safe Torque Off options
- **Ratings**
  - 200-240V: 0.1-2.2 kW/0.25-3 Hp/1.5-11.3 A
- **Operating temperatures**
  - From -20 °C (-4 °F) up to 50 °C (122°F).
- **Logic Integration**
  - PowerFlex 520 integration into Logix control environment
- **Communications**
  - EtherNet/IP, support for additional industrial networks

**PowerFlex 527 AC Drives**
- 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 527 AC drives provide the features you need to help maximize your productivity.

- **Communications**
  - PowerFlex 527 drives use the option to be programmed using motion instructions exclusively
- **Safety**
  - Safe Torque Off options
- **Ratings**
  - 200-240V: 0.1-2.2 kW/0.25-3 Hp/1.5-11.3 A
- **Operating temperatures**
  - From -20 °C (-4 °F) up to 50 °C (122°F).
- **Logic Integration**
  - PowerFlex 527 integration into Logix control environment
- **Communications**
  - EtherNet/IP, support for additional industrial networks

**PowerFlex 525 AC Drives**
- 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 525 AC drives provide the features you need to help maximize your productivity.

- **Communications**
  - PowerFlex 525 drives have the option to be programmed using motion instructions exclusively
- **Safety**
  - Safe Torque Off options
- **Ratings**
  - 200-240V: 0.1-2.2 kW/0.25-3 Hp/1.5-11.3 A
- **Operating temperatures**
  - From -20 °C (-4 °F) up to 50 °C (122°F).
- **Logic Integration**
  - PowerFlex 525 integration into Logix control environment
- **Communications**
  - EtherNet/IP, support for additional industrial networks

**PowerFlex 7000 Medium Voltage Drives**
- 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 7000 medium voltage drives provide the features you need to help maximize your productivity.

- **Communications**
  - PowerFlex 7000 drives have the option to be programmed using motion instructions exclusively
- **Safety**
  - Safe Torque Off options
- **Ratings**
  - 200-240V: 0.1-2.2 kW/0.25-3 Hp/1.5-11.3 A
- **Operating temperatures**
  - From -20 °C (-4 °F) up to 50 °C (122°F).
- **Logic Integration**
  - PowerFlex 7000 integration into Logix control environment
- **Communications**
  - EtherNet/IP, support for additional industrial networks

**More Information**
To see a full range of PowerFlex AC drives and for more information on these products visit: www.ab.rockwellautomation.com/Drives.
### CENTERLINE Motor Control Centers

**Overview**
Allen-Bradley CENTERLINE low and medium voltage motor control centers offer optimal safety, performance and reliability to meet your global needs. Select the right motor control center for your application from the portfolio of low and medium voltage CENTERLINE MCCs. Designed to meet your application requirements, this portfolio is available as standard, networked and with ArcShield™ technology – IEC certified arc resistant enclosures.

**Key Features**
- Offers proven technology for high quality and years of dependable service
- Select the motor control center that meets standards for NEMA and IEC applications
- Select the intelligent motor control and protection devices to meet your application needs
- ArcShield technology helps to reduce arc flash hazards and provide increased protection against internal electrical arcing faults
- CENTERLINE 2100 with SecureConnect™ units helps reduce electrical shock and exposure to electrical hazards

**Safety**
- ArcShield arc resistance
- SecureConnect™ units (2100 only)
- Automatic Shutters

**Rating**
- 2100: Up to 600V, 600-3200 A
- 2500: Up to 690V, 800-4000 A
- 1500: Up to 6900V, 400-800 A

**Communications**
- EtherNet/IP
- DeviceNet

**Standards**
- NEMA
- IEC
- IEEE C37.20.7

**More Information**
To see our full range of motor control devices and for more information on these products visit: [http://ab.rockwellautomation.com/Motor-Control](http://ab.rockwellautomation.com/Motor-Control)

<table>
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<tr>
<th>E1 Plus Electronic Overload Relay</th>
<th>E300 Electronic Overload Relay</th>
<th>857 Motor/Feeder Protection Relay</th>
<th>SMC Flex</th>
<th>SMC 50</th>
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</thead>
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<tr>
<td>Rating</td>
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<td>0.5-65000 A</td>
<td>10-20000 A</td>
<td>1-1250 A</td>
<td>0-530 A</td>
</tr>
</tbody>
</table>

**Motor Control**
- Solid-state
- Standard starter
- Reversing starter
- In-/Out Delta/Delta starter
- Two-speed starter
- Motor and Feeder Protection
- Low Voltage and Medium Voltage control
- 2-channel digital recorder
- Remote RTD Sensing
- Analog input/output capabilities
- Soft Start
- Soft Start
- Safe standard start modes
- Three expansion ports to install option modules
- Built-in electronic motor overload protection
- Current and voltage sensing on each phase
- DIF communication (standard)

**I/O**
- 2 Inputs
- 1 Output
- 4/3 (AC), 6/3 (DC), 2/2 (AC with protection)
- 4/2 (DC with protection)
- 16/8 Extra (with optional digital expansion modules)
- Configurable inputs and outputs
- Four functionally programmable on-board output contacts (N.O. or N.C.)
- Two fully programmable contacts as: normal, UTS, alarm, external brake, auxiliary control, network or external bypass

**Communications**
- EtherNet/IP Communication Module
- EtherNet/IP network (DRL)
- EtherNet/IP network

**Technical Documentation**
- EC-CA001
- 193-SG010A
- 857-SG001
- 150-SG009
- 150-SG010

**More Information**
For the most up-to-date information on our full range of motor protectors visit: [http://ab.rockwellautomation.com/circuit-and-load-protection](http://ab.rockwellautomation.com/circuit-and-load-protection)
Operator Interfaces At-A-Glance

PanelView Plus 7

- **Overview:** Available in Standard and Performance versions with display sizes from 4-19 in. with widescreen options. Use FactoryTalk View Machine Edition to build your application and help simplify configuration and strengthen your integrated FactoryTalk solution. Includes Ethernet connectivity enabling remote monitoring with HMI connectivity.

- **Performance models:** Designed for all applications, ranging from small to large, complex machines.
- **Modern design with display sizes:** From 7-19 in. with wide screen, touch, and keypad options.
- **500 MB internal storage** and 2 GB storage.
- **Color TFT LCD, 24-bit Color Graphics** (16.7 million colors), light-emitting diode backlight, internal memory and remote monitoring features for enhanced productivity and maintenance.

- **MobileView**
  - Mobile graphic terminals that help increase operator productivity and provide a safe production environment.
  - Mobile operator interface runs Windows Embedded Standard 7 operating system, but allows reuse of FactoryTalk View ME and FactoryTalk View Studio applications to help reduce development costs.

PanelView 5000

- **Key Features:**
  - Available in Standard and Performance versions with display sizes from 6-12 in. with wide display.
  - **PanelView Plus:** Ideal for small and mid-size machine applications requiring basic features.
  - **PanelView 5100 Models:** Modern design with display sizes from 6-12 in. with wide screen options.
  - **10 screens and pop-ups** for jogging applications.

- **Environmental:** NEMA 12, 13, 4X, IP66, 0-55 °C (32-131 °F).
- **Certifications:** Standard model certifications include CE (EMC), CE (LVD), RoHS, EAC; CS, CE, RCM (formerly C-Tick), ATEX Zone 2, ATEX Zone 22; cULus Listed; KCC; CE (EMC), CE (LVD), RoHS, cULus Listed; CE (EMC), CE (LVD), RoHS, RCM.

PanelView 800

- **Key Features:**
  - **Standard version:** Ideal for small and mid-size machine applications requiring basic features.
  - **Modern design with display sizes:** From 7-19 in. with wide screen, touch, and keypad options.
  - **500 MB internal storage** and 2 GB storage.
  - **Color TFT LCD, 24-bit Color Graphics** (16.7 million colors), light-emitting diode backlight, internal memory and remote monitoring features for enhanced productivity and maintenance.

- **MobileView**
  - Mobile graphic terminals that help increase operator productivity and provide a safe production environment.
  - Mobile operator interface runs Windows Embedded Standard 7 operating system, but allows reuse of FactoryTalk View ME and FactoryTalk View Studio applications to help reduce development costs.

PanelView 600

- **Key Features:**
  - Available in Standard and Performance versions with display sizes from 4-19 in. with widescreen options. Use FactoryTalk View Machine Edition to build your application and help simplify configuration and strengthen your integrated FactoryTalk solution. Includes Ethernet connectivity enabling remote monitoring with HMI connectivity.

- **Performance models:** Designed for all applications, ranging from small to large, complex machines.
- **Modern design with display sizes:** From 7-19 in. with wide screen, touch, and keypad options.
- **500 MB internal storage** and 2 GB storage.
- **Color TFT LCD, 24-bit Color Graphics** (16.7 million colors), light-emitting diode backlight, internal memory and remote monitoring features for enhanced productivity and maintenance.

- **MobileView**
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  - Mobile operator interface runs Windows Embedded Standard 7 operating system, but allows reuse of FactoryTalk View ME and FactoryTalk View Studio applications to help reduce development costs.
## Computers At-A-Glance

### Overview

**Integrated Display**
The VersaView 5400 open architecture integrated display computers and VersaView 5200 thin client versions include a modern, edge-to-edge glass display and project in multiple mounting options.

**Non-Display**
VersaView 5400 non-display computers, VersaView 5200 and ThinManager**†** thin client versions offer a modern, small footprint with multiple mounting options.

**Monitors**
The VersaView 5100 monitors include a modern, edge-to-edge glass display, projected capacitance multi-touch screen and multiple display inputs.

### Key Features

**Integrated Display Computers**
- Screen sizes: 12-in., 15-in., 19-in., 22-in. (all-wide screen)
- Projected capacitive multi-touch
- Performance: Quad core Intel Atom
- Storage: 256 GB SSD
- DC Power
- Full HD 1080P option available
- Projected capacitive multi-touch
- Screen sizes: 12-in., 15-in., 19-in., 22-in. (all-wide screen)
- Projected capacitive multi-touch
- Full HD 1080P options

**Non-Display Thin Client**
- Rockwell Automation ThinManager ready
- Dual external display support
- 128 GB SSD options available
- 22-in. models
- DC Power
- Full HD 1080P option available
- Projected capacitive multi-touch
- Screen sizes: 12-in., 15-in., 19-in., 22-in. (all-wide screen)
- Projected capacitive multi-touch
- Full HD 1080P options

**Non-Display Computers**
- Dual external display support
- Performance: Quad core Intel Atom
- Storage: 256 GB SSD
- Operating Systems: 64-bit Windows
- DC Power
- Dual external display support
- Screen sizes: 12-in., 15-in., 19-in., 22-in. (all-wide screen)
- Projected capacitive multi-touch
- Full HD 1080P options

### Standard & Environment

**Software**
Ideal open architecture platform for use with FactoryTalk View, or VersaView Integrated Display Computers.

**Standards & Environment**
- **Integrated Display Computers**
  - ULus listed, CE, EAC, KC, RCM
  - Operations: -20-50 °C (-4-122 °F)
- **Non-Display Thin Client**
  - Operations: -20-50 °C (-4-122 °F)
  - ULus listed, CE, EAC, KC, RCM
- **Non-Display Computers**
  - Operations in 0-50 °C (32-122 °F)
  - ULus listed, CE, EAC, KC, RCM

**More Information**
To see our full range of open architecture operator interface options and for more information on these products visit [http://ab.rockwellautomation.com/Computers](http://ab.rockwellautomation.com/Computers)

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### Industrial Environment Computers

**VersaView 5000**
- Based on Bulletin 6181P Non-Display Computers*
  - Supports dual external monitor video output
  - Stainless steel bezel (optional)
  - Widescreen and projected capacitance multi-touch screens
  - Available in 12-in., 15-in. wide, 15.6-in., 17-in., 18.5-in., 19-in. models

**VersaView 5400**
- Based on Bulletin 6181P Non-Display Computers*
  - Versatile mounting options ideal for control cabinet use
  - Windows Server 2008 R2 option with Windows thin client support
  - Integrated DisplayPort for direct connection to a VersaView industrial monitor

**Industrial Data Centers**
- 100-240V AC, autoranging power requirements
- Windows 10 IoT Enterprise, 8.1, 7, Server 2012 and 2008
- 24/7 hard disk drives with RAID support
- Multiple performance packages for every application

**Industrial Environment Computers**
- Runs multiple standalone plant floor applications in industrial environments
- Meets the high demands of IIoT applications with our quad-core industrial PCs
- Integrated DisplayPort for direct connection to a VersaView industrial monitor

**ControlLogix Compute Module**
- Integrated DisplayPort for direct connection to a VersaView industrial monitor
- Versatile mounting options ideal for control cabinet use

**CompactLogix 5480 Controller**
- Provides computing capability in a ControlLogix chassis
- High-speed access to the ControlLogix controller over the backplane

**VersaView 5400**
- Multidisplay standalone plant floor applications in industrial environments
- Meets the high demands of IIoT applications with our quad-core industrial PCs
- Integrated DisplayPort for direct connection to a VersaView industrial monitor

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- Integrated DisplayPort for direct connection to a VersaView industrial monitor

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### Scalable Computers

**VersaView 5000**
- Based on Bulletin 6181P Non-Display Computers*
  - Supports dual external monitor video output
  - Stainless steel bezel (optional)
  - Widescreen and projected capacitance multi-touch screens
  - Available in 12-in., 15-in. wide, 15.6-in., 17-in., 18.5-in., 19-in. models

**VersaView 5400**
- Based on Bulletin 6181P Non-Display Computers*
  - Versatile mounting options ideal for control cabinet use
  - Windows Server 2008 R2 option with Windows thin client support
  - Integrated DisplayPort for direct connection to a VersaView industrial monitor

**Industrial Data Centers**
- 100-240V AC, autoranging power requirements
- Windows 10 IoT Enterprise, 8.1, 7, Server 2012 and 2008
- 24/7 hard disk drives with RAID support
- Multiple performance packages for every application

**Industrial Environment Computers**
- Runs multiple standalone plant floor applications in industrial environments
- Meets the high demands of IIoT applications with our quad-core industrial PCs
- Integrated DisplayPort for direct connection to a VersaView industrial monitor

**ControlLogix Compute Module**
- Integrated DisplayPort for direct connection to a VersaView industrial monitor
- Versatile mounting options ideal for control cabinet use

**VersaView 5400**
- Multidisplay standalone plant floor applications in industrial environments
- Meets the high demands of IIoT applications with our quad-core industrial PCs
- Integrated DisplayPort for direct connection to a VersaView industrial monitor

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### Extreme Environment Computers

**VersaView 5000**
- Based on Bulletin 6181P Non-Display Computers*
  - Supports dual external monitor video output
  - Stainless steel bezel (optional)
  - Widescreen and projected capacitance multi-touch screens
  - Available in 12-in., 15-in. wide, 15.6-in., 17-in., 18.5-in., 19-in. models

**VersaView 5400**
- Based on Bulletin 6181P Non-Display Computers*
  - Versatile mounting options ideal for control cabinet use
  - Windows Server 2008 R2 option with Windows thin client support
  - Integrated DisplayPort for direct connection to a VersaView industrial monitor

**Industrial Data Centers**
- 100-240V AC, autoranging power requirements
- Windows 10 IoT Enterprise, 8.1, 7, Server 2012 and 2008
- 24/7 hard disk drives with RAID support
- Multiple performance packages for every application

**Industrial Environment Computers**
- Runs multiple standalone plant floor applications in industrial environments
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For more information: [www.rockwellautomation.com/go/ia](http://www.rockwellautomation.com/go/ia)
## Stratix Industrial Networks Infrastructure and Security At-A-Glance

### Overview
- **Stratix 5410 Distribution Switch**
  - Distribution switches that offer a 19" rack mount design for increased port density. These switches offer four 10-Gigabit Ethernet ports and Network Address Translation capabilities for networks where high performance is critical.
  - Managed switches that support layer 2 switching and layer 3 routing with additional Gigabit, Power over Ethernet and Gigabit fiber ports.

- **Stratix 5400 Managed Switch**
  - Modular managed switches using Cisco® Catalyst® switch architecture with tool kits that are familiar to IT professionals can help provide secure integration with the enterprise network.
  - Managed switches that offer a dependable, rugged, machine solution for networks in extreme environments. IPv6 ready for dust and wash-down protection.

- **Stratix 8300 and Stratix 8300 Managed Switch**
  - Lightly managed switches that enable network connectivity in applications where traditional managed switches lack the ability to provide diagnostics and security.
  - Unmanaged switches are ideal for small control networks. These industrial-grade switches do not require any configuration and use simple cable connections.

- **Stratix 5700 Managed Switch**
  - Managed switch with 2-ports support 1 Gb

- **ArmorStratix 5700 Managed Switch**
  - Managed switch with 2 ports support 1 Gb

### Key Features
- **19" rack mount design for increased port density**

  - Four 10-Gigabit uplinks and 24 Gigabit downlinks for high performance network requirements.

- **Access switching and distribution layer routing capabilities for flexibility in network architectures**

  - Supports multiple high-performance network resiliency protocols.

- **Layer 2 access switching and layer 3 routing for the flexibility to create multiple network configurations**

  - 28 Gigabit Ethernet (PoE) expansion modules.

- **Optional Integrated Device Level Ring (IDL-R) connectivity**

  - Optional Network Address Translation (NAT) maps local, machine-level IP addresses, in the broader plant network.

- **Optical Ringing**

  - Power over Ethernet (PoE), Gigabit ports and EEE 1588 support.

- **Security Features**

  - Port security helps disable ports, in control and device connectivity based on MAC address.

  - STP and RSTP for secure connectivity.

- **Logix Integration**

  - Premier integration to integrated architecture including:
    - Studio 5000 Add-on Profile for configuration and monitoring.
    - Predetermined Logix tags for monitoring and port control.
    - FactoryTalk® View Faceplate for status monitoring and alarming.

- **Cisco IOS**

  - Add-on Profile/VIEW for configuration via Studio 5000 and factoryTalk® View Faceplate.

### Ports
- **28 total ports**
  - 12 copper
  - 16 SFP ports
  - All support 1 Gb

- **8, 12, 16 and 20-port versions**
  - Up to 12 SFP ports
  - Up to 8 PoE ports
  - All support 1 Gb

- **5 and 8-port versions**
  - Up to 16 PoE ports
  - 1 console port

- **NAT**

  - Yes

- **Security Features**

  - Port security helps disable ports, in control and device connectivity based on MAC address.

  - STP and RSTP for secure connectivity.

  - Port security helps disable ports, in control and device connectivity based on MAC address.

  - STP and RSTP for secure connectivity.

  - Network settings, Alarm management, Device management.

### More Information

For the most up-to-date information on our full range of Industrial Networks Infrastructure products and accessories, visit: [http://rockwellautomation.com/Networks-Communications/Ethernet-IP-Network](http://rockwellautomation.com/Networks-Communications/Ethernet-IP-Network)

For more information: [www.rockwellautomation.com/go/ia](http://www.rockwellautomation.com/go/ia)
Ethernet Media At-A-Glance

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

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/
Providing the resources you need, when and where you need them, Rockwell Automation has an integrated, global network of ISO-certified repair centers, exchange hubs, field service professionals, IACET-recognized training centers, certified technical phone support centers and online tools.

Remote Support & Monitoring
- Real-time product, system and application-level support
- Unlimited online resources and tools
- Live chat and support forums
- Secure equipment monitoring, alarming and diagnostics

Training Services
- Instructor-led and computer or web-based courses
- Virtual classroom
- Training assessments
- Workstations and job aids

OnSite Services
- Embedded engineering
- Preventive maintenance
- Migrations and conversions
- Start-up and commissioning and diagnostics

Repair Services
- Product remanufacturing
- Repair services on non-Rockwell Automation brands
- Annual repair agreements

MRO Asset Management
- Comprehensive asset management planning
- Reliability services
- Global spare parts inventory
- Storeroom and firmware management

Lifecycle Extension & Migrations
- Installed Base Evaluation™
- Pinpoint obsolescence risk
- Tools and Lifecycle support service agreements to mitigate production risk

Network & Security Services
- Manage network convergence
- Security technology, policies and procedures services
- Network design, integration and validation services

Safety Services
- Safety assessments and remediation
- Safety design, integration and validation services

Visit Get Support Now, www.rockwellautomation.com/support to select your country and find your local support information.

Food & Beverage
- Product safety & compliance
- Line performance
- Batch, blending, routing & CIP
- Production & order management

Household & Personal Care
- Material tracking/genealogy
- Historian & dashboards
- Mixing, blending, routing & CIP
- Production & order management

Life Sciences
- Full MES & compliance
- Formulation & filling
- Track & trace
- Modular process build

Visit Get Support Now, www.rockwellautomation.com/support to select your country and find your local support information.

Metallics
- Body & painting line control
- Error proofing & kitting
- Presses & press line control
- Scheduling & ERP integration

Chemicals
- Batch processing
- Mixing & blending
- Material tracking
- Tank farm control

Tire & Rubber
- Safety wind-up & Let-off (WULO)
- Calenders
- Mixing/ISR systems & curing
- Extruders

Power Generation
- Combustion controls/burner management
- Fuel handling/energy conversion
- Electrical protection & control
- Balance of plant automation/integration

Metals
- Shot peening
- Continuous casting
- Strip processing & finishing
- Rod & bar mills
- Material tracking

Pulp & Paper
- Burner management & digesters
- Stock preparation-machine DCS
- Paper & tissue machine systems
- Wind & sheeter safety

Mining & Cement
- Ventilation on demand
- Ore beneficiation/processing
- Loadout systems
- Crushers & conveyors

Water/Wastewater
- Process control
- Power control
- SCADA - data collection
- Remote terminal units

For more information: www.rockwellautomation.com/go/ia

For more information: www.rockwellautomation.com/go/ia
Rockwell Automation, Inc. (NYSE:ROK), one of the world's largest companies dedicated to industrial automation, makes its customers more productive and the world more sustainable. Throughout the world, our flagship Allen-Bradley® and Rockwell Software® product brands are recognized for innovation and excellence.

www.rockwellautomation.com

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