Kinetix® 300 EtherNet/IP™ Indexing Servo Drive

Cost-Effective Low Axis Count Motion Control

The benefits of using a single EtherNet/IP network solution for your entire machine are substantial. Simplicity, flexibility and high performance are just some of the reasons to make the move to Ethernet/IP. And, it's not just for select applications anymore. As Ethernet/IP communications have become widely accepted and adopted, there is a growing trend toward both machine builders and end users standardizing on this single enterprise-wide network.

Eliminating the need for a dedicated motion network allows easy commissioning, configuration and start up of your machine's servo drives, motors and actuators. It also enables the integration of an entire control solution over Ethernet/IP, including HMI, Programmable Automation Controllers (PAC), I/O and motion, while maintaining reliable, high-speed connectivity.

Rockwell Automation® realizes that safety is another growing concern. To meet insurance requirements, help protect personnel and help improve productivity through increased machine availability, the Kinetix 300 comes equipped with embedded safe torque off functionality. Now, some work that previously required power-down conditions can be accomplished without removing power from the entire machine, helping result in improved uptime.

The single axis Kinetix 300 also has the voltage and power ranges — along with flexible control architecture — to meet a wide array of global machine requirements.

A single, standard Ethernet/IP network. Safety functionality. Flexibility. The power of Integrated Architecture™ in a cost-effective package. The Kinetix 300 servo drive combines all these benefits into the low axis motion solution your cost-sensitive machines require.

The Kinetix 300 EtherNet/IP Indexing Servo Drive eliminates the need for a separate motion network and provides a cost-effective solution for low-axis machines.

Flexible Control

- Indexing
  - Five different indexing types
  - S-Curve and trapezoidal moves
  - 32 Index capability
- Commanded Control Over EtherNet/IP
  - Velocity and current
  - Absolute and incremental position with or without registration
- Electronic gearing
- Analog input control
- Step and direction control

Scalable Platform

- 120V and 240V single phase, 240 and 460 3-phase voltage models.
- 400W – 3kW power ranges.
- Can use with CompactLogix™ PAC as part of the Integrated Architecture.
- RSLogix™ 5000 Add On Profile and On-Drive, web-based configuration.
- Choice of Integrated Architecture or component level machine solution.

Enhancing Machine Productivity

- Integrated Safe Torque Off — Tasks such as machine setup, cleaning, removal of jams and other typical maintenance work that previously required power-down conditions can now be accomplished without removing power from the entire machine.
- Memory Module for Automatic Device Replacement.
- Seamless integration of Rockwell Automation MP-Series™ and TL-Series™ servo motors and actuators.
- 4 character display for easier diagnostics.

Allen-Bradley • Rockwell Software

Rockwell Automation

CompactLogix L23

PanelView Plus Compact

Stratix 6000

Point I/O

Kinetix 300 Servo Drive
(Indexing Position & Velocity)

MP-Series (MPL) Motor

Get the Power of the Rockwell Automation Integrated Architecture for Low Axis Count Applications

When teamed with the CompactLogix Programmable Automation Controller (PAC), the Kinetix 300 can be programmed with RSLogix 5000 software using an Add On Profile. This helps you to get the benefits of the Integrated Architecture — including code re-use and reduced engineering costs — for even cost-sensitive, low axis count machines.

MicroLogix 1400

Kinetix 300

EtherNet/IP

Stratix 2000

PanelView Component

TL-Series (TLY) Motor
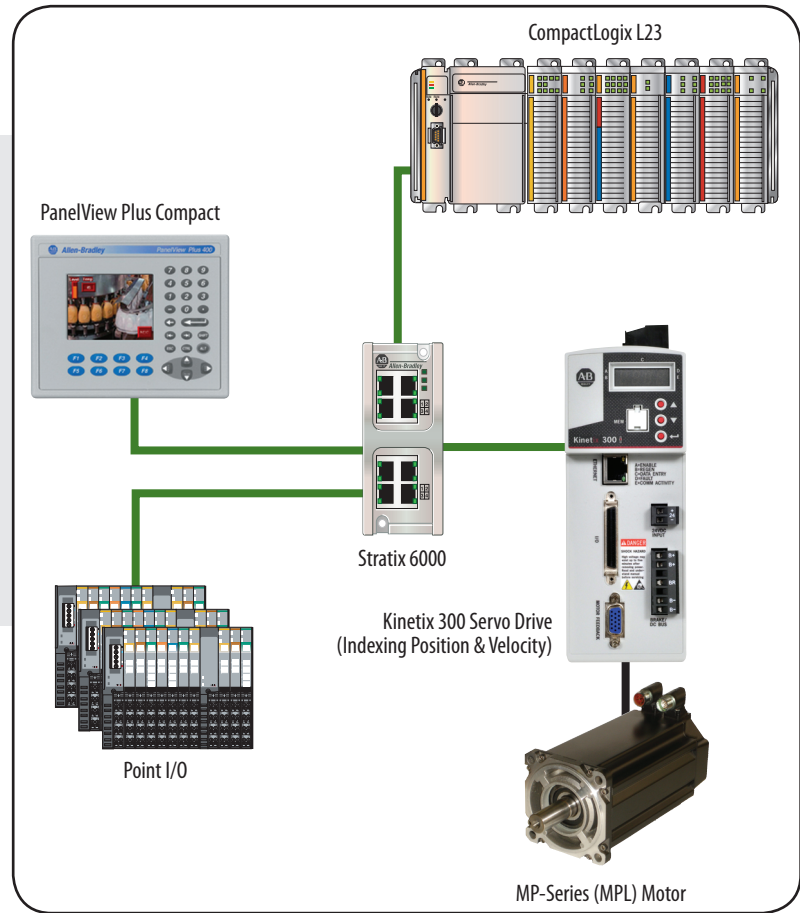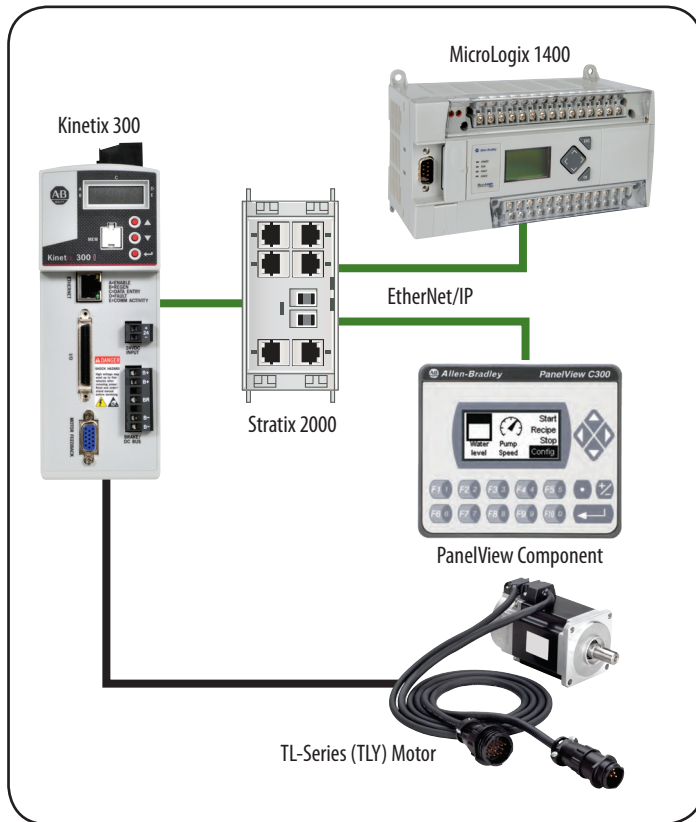
Use the Kinetix 300 with the Allen-Bradley® MicroLogix™ 1400 Processor for an Affordable Component Machine-level Solution

The Kinetix 300 servo drive can be used with the MicroLogix 1400 processor to achieve a simple, cost-effective component motion solution. Easy setup via a web browser helps you quickly implement non-coordinated, independent, indexing moves — along with the ability to control the indexing moves on an EtherNet/IP network.

Both Integrated Architecture and component based machines using the Kinetix 300 can benefit from:

- **Elimination of a dedicated Motion Control network** — Use EtherNet/IP for your entire machine.
- **A cost-effective solution for low axis applications** — A scalable power platform combined with EtherNet/IP communications, make the Kinetix 300 a beneficial choice for cost-sensitive applications such as: simple packaging machinery, indexing tables, automatic assembly equipment, tool changing machinery, feed and withdrawal equipment, etc.
- **Smart Motor Technology** — Automatic identification of correct motor-to-drive connectivity when used with MP-Series and TL-Series servo motors and actuators reduces commissioning time.
- **A flexible control engine** — allows for analog, PTO, indexing, and Ethernet/IP commanded control of servo motors and actuators.

# Kinetix 300 Indexing Drive Provides Simple, Cost-effective Motion Control

The Kinetix 300 servo drive can execute five different indexing types and 32 indices for position-control performance and flexibility in applications where more comprehensive motion control systems may not be cost-effective.

Indexing Control Capabilities

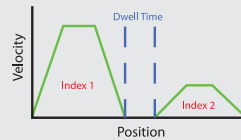### Supporting a total of five indexing types and 32 indexes
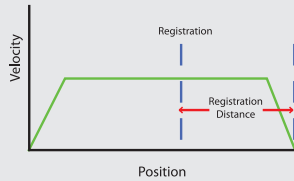
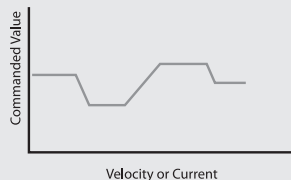Registration action
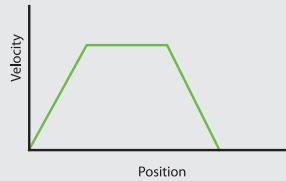
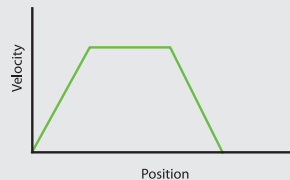Stop and hold action

Blended incremental action

Wait for Start Command action

Wait time action

EtherNet/IP Commanded Control Capabilities

Commanding the drive over EtherNet/IP to a current, velocity or position
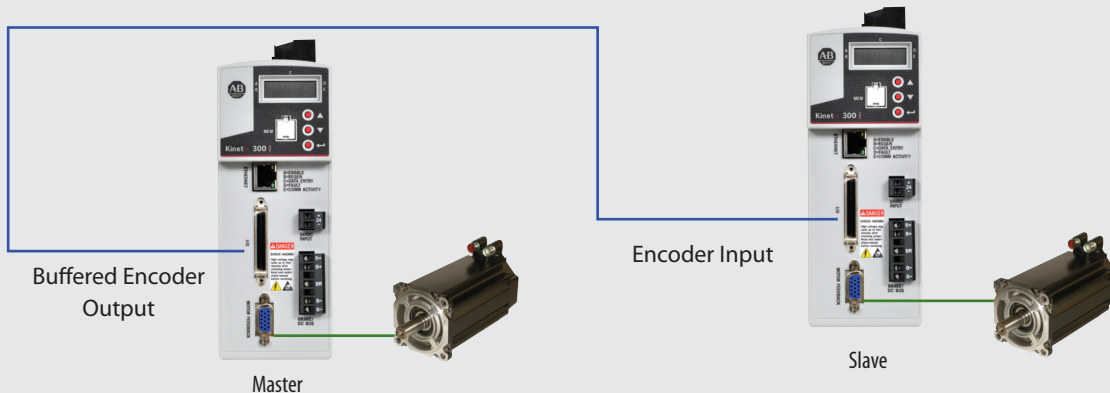
Velocity or Current control

Position control
(Absolute or Incremental)
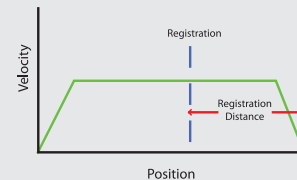
Registration Position Control
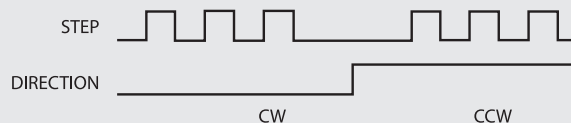(Absolute or Incremental)

Master Gearing Capabilities

Buffered Encoder Output

Encoder Input

Master

Slave

Hardware Control Capabilities

Analog Follower Control

Step and Direction Control

Kinetix 300 Ethernet/IP Indexing Servo Drive Specifications

Catalog Number	Description	Power (kW)	Common Specifications
2097-V31PR0	1ø, 2A, 120/240V, No Filter (120V voltage doubler)	0.4	**Safe Torque Off:** ISO 13849-1 Safety Category 3 Performance Level d **Servo I/O** Digital Inputs: Enable (1), Over Travel (2), Registration Input (1), Assignable Inputs (8) Digital Ouputs: Ready (1), Assignable Outputs (4) Analog Input: ± 10V DC Single Ended or Differential (12 bit) Analog Ouput: ± 10V DC Single Ended (10 bit) **Motor/Actuator Compatibility** MP-Series Low Inertia, Food Grade, Stainless Steel and Medium Inertia Motors TL-Series (TLY) Motors, MP-Series and TL-Series Electric Cylinders
2097-V31PR2	1ø, 4A, 120/240V, No Filter (120V voltage doubler)	0.8	
2097-V32PR0	1ø, 2A, 240V, Integral Filter	0.4	
2097-V32PR2	1ø, 4A, 240V, Integral Filter	0.8	
2097-V32PR4	1ø, 8A, 240V, Integral Filter	1.7	
2097-V33PR1	1ø 3ø, 2A, 240V, No Filter	0.5	
2097-V33PR3	1ø 3ø, 4A, 240V, No Filter	1	
2097-V33PR5	1ø 3ø, 8A, 240V, No Filter	2	
2097-V33PR6	1ø 3ø, 12A, 240V, No Filter	3	
2097-V34PR3	3ø, 2A, 480V, No Filter	1	
2097-V34PR5	3ø, 4A, 480V, No Filter	2	
2097-V34PR6	3ø, 6A, 480V, No Filter	3	

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