Allen-Bradley® Kinetix 5500 Servo Drive and VP Low Inertia Servo Motor

Allen-Bradley

Delivering the Right-Size Integrated Motion System on EtherNet/IP

Features

Building on the Integrated Architecture™ midrange system, the Kinetix® 5500 servo drives and VP Motors enhance performance for more applications with the following features:

- New option includes Integrated Safety over EtherNet/IP
- Smaller footprint with optimized power density
- Single cable including feedback, motor brake and motor power, all in one cable equipped with quick, one turn connectors
- Winding options that match to the drive ratings allowing more efficient system sizing
- Digital feedback device provides real-time motor performance information to the control system
- Capability to run servo and induction motors all in one drive platform
- Drive power ranges of 600 W to 15kW
- Flexible power connectivity provides multiple ways to operate the system
- Each drive catalog number supports 200V and 400V class applications
- Uses the Integrated Motion on EtherNet/IP Encoder for auxiliary feedback support
- Non-flex and flex cables to optimize applications

Simplify wiring and reduce panel space with the Kinetix 5500 and VP Low Inertia Motor.

The Kinetix 5500 and VP Low Inertia Motor help reduce cost with a smaller footprint and flexible power connectivity.

Rockwell Automation has expanded its Integrated Architecture with the Kinetix 5500 servo drive with Integrated Safety option and VP Low Inertia servo motor offering. Combined as a system, they can provide a cost-effective motion solution that delivers the high performance and scalability you need to compete in today's industry.

Enhancing the current midrange architecture portfolio, this motion system is designed to connect and operate with the new family of CompactLogix™ controllers using Studio 5000 Software supporting Integrated Motion on EtherNet/IP.™ With the benefits of this motion system, you can now run motion applications on a single control platform, using a single network – simplifying the design, operation and maintenance of equipment.

With its innovative, compact design, the Kinetix 5500 requires less panel space and can be connected easily. In addition, you can reduce installation and commissioning time by using just a single cable. You can now get the feedback, motor brake and motor power all in one cable – simplifying wiring and reducing inventory. To further enhance the design, the Kinetix 5500 has dual Ethernet ports allowing for multiple topologies.

Kinetix 5500 Servo Drive

- Innovative common AC/DC bus eliminates hardware – reducing installation time and lowering costs
- Dual port Ethernet allows for both line and Device Level Ring topologies
- Targeted for use with Logix family of controllers supporting CIP Motion
- Disturbance observer allowing for up to 80-1 inertia mismatch

Kinetix 5500 with Integrated Safety

- **Integrated safety over EtherNet/IP**
  - Safe Torque Off-SIL3PLe
  - Complete project integration in Logix Designer for control, safety and motion
- Hardwired safety
  - Safe Torque Off – SIL2PLd

VPL Servo Motor

- Windings optimized to match drive ratings allowing for efficient system sizing
- Digital feedback device provides real-time motor performance information to the control system

VPF Food-Grade Motor

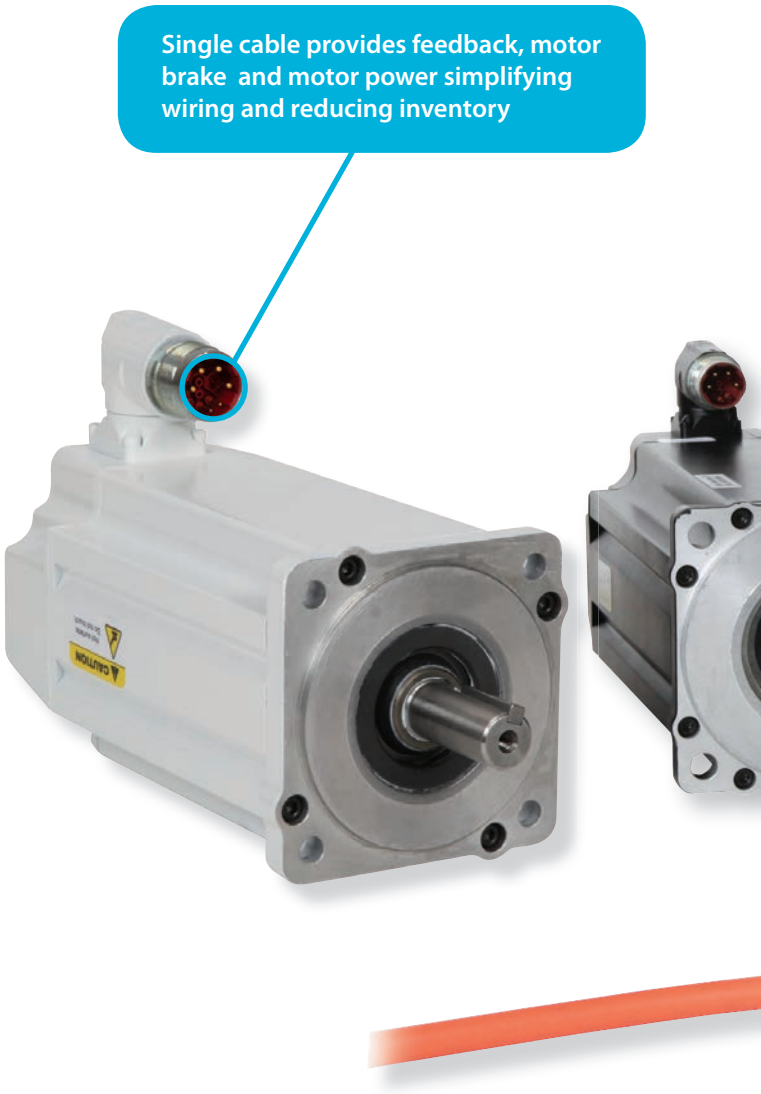
- Designed to meet the unique needs of many food and beverage applications.
- Six frame sizes from 63mm to 165mm frame sizes (Continuous torque range of .93-19.4 Nm)
- Durable food grade white paint with premium white paint adhesion

Single Cable

- One cable between motor and drive yields simplification in inventory and installation
- Cables meet the requirements of your machine, including:
  - UL AWM 1000V, 105˚ C construction
  - UL Listed PLTC-ER construction
  - CSA AWM, I/II A/B 1000V 105˚ C construction
  - CSA FT-4 vertical tray flame test
  - DESINA compliant jacket
- Standard and flex cables available to optimize your solution
- Configurable in 1m increments

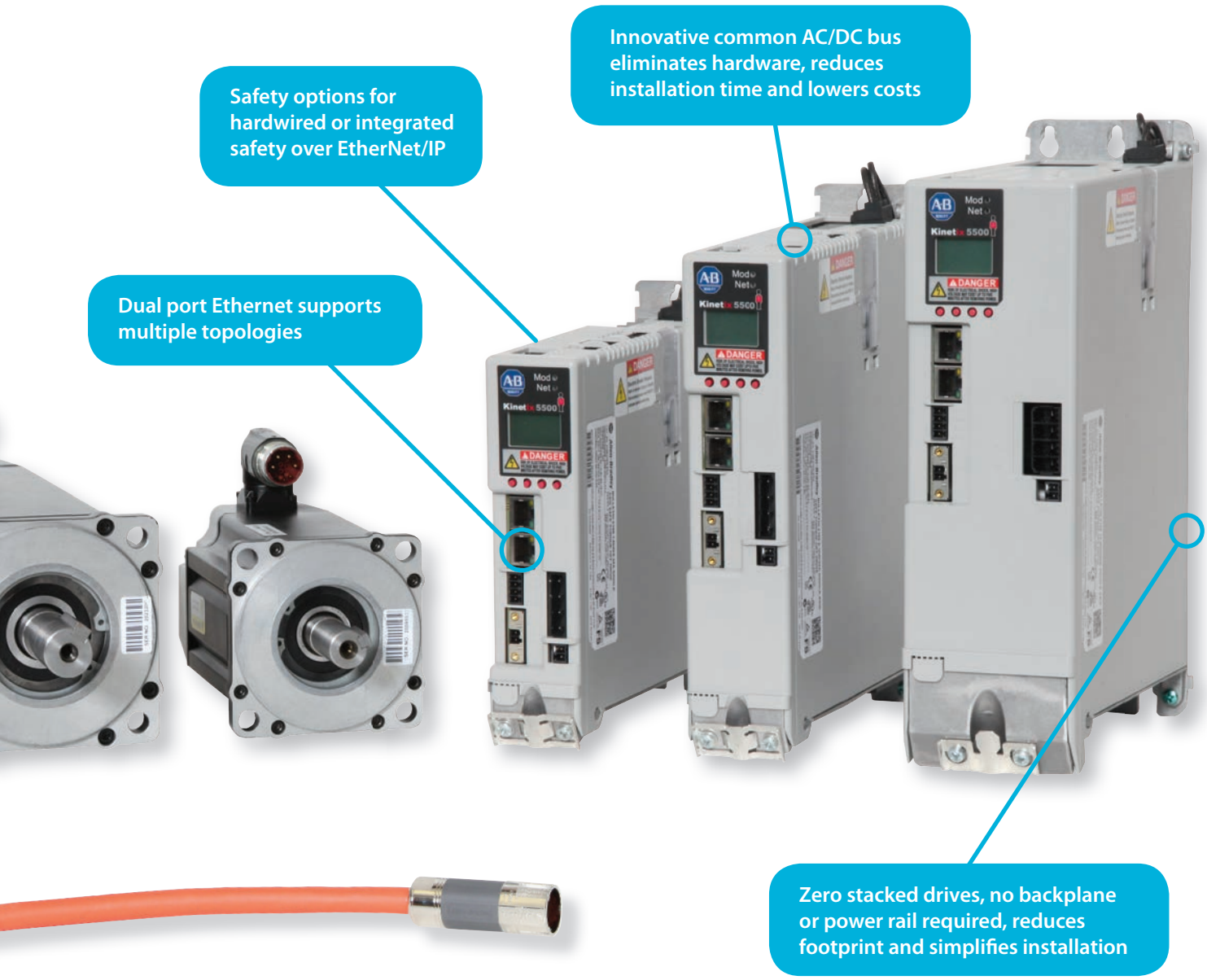
DSL Converter Kit

- Designed to convert Hiperface to DSL feedback
- Use the Kinetix 5500 Servo Drive with 460V Hiperface feedback MP-Series motors and actuators to solve additional motion applications
- Attaches directly to the drive's DSL feedback port and equipped with an adjustable mounting bracket to fit all Kinetix 5500 frame sizes



Integrated Motion on EtherNet/IP Encoder

- Provides auxiliary feedback to the control system through the EtherNet/IP network – for feedback only applications
- Uses the motion device axis profile to provide auxiliary feedback to the system
- Uses CIP Sync and CIP Motion technology to provide a timed synchronization of data to and from controller



Flexible Power Connectivity

Designed to work as a hybrid solution, the Kinetix 5500 can also be used in multi-axis applications without additional hardware requirements:

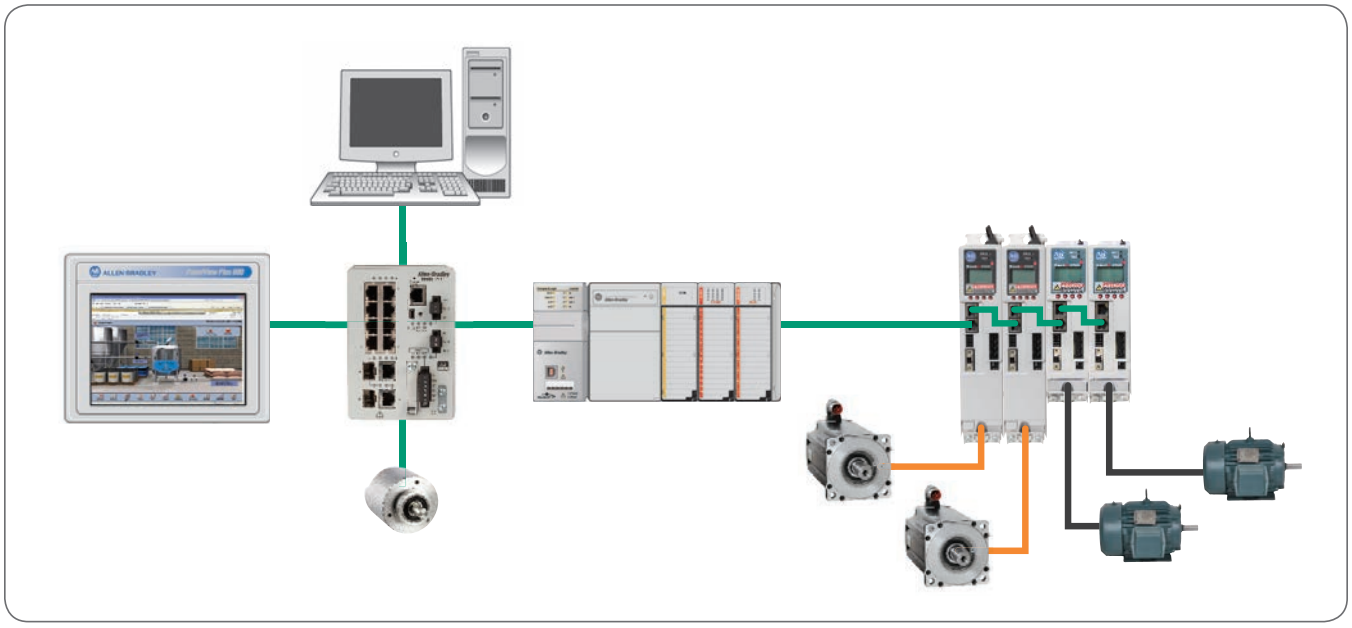
- Single axis for standalone operation
- Shared AC and common DC bus to improve efficiency and reduce overall cost
- Simplify input connectivity, minimize branch protection and wiring
- Hybrid of first two

Ease of Use

- Innovative common AC/DC bus eliminates hardware, reduces installation time and lowers costs
- Simplified mounting with zero stack drives capabilities
- New display provides additional information for commissioning, tuning and improved diagnostics
- Cable clamp design enforces 360-degree shielding to minimize installation errors

Integrated Motion with EtherNet/IP

EtherNet/IP uses CIP Sync and CIP Motion technologies to provide real-time, closed-loop motion control with standard Ethernet. This topology-independent network provides a simplified integration of the entire control solution on one network, including HMI, PAC, I/O and motion.



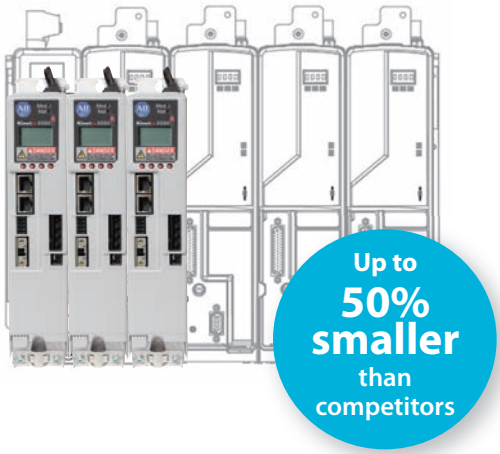
Kinetix 5500 Servo Drive Specifications

Input Voltage	Input Phases	Amps Cont. (RMS)	Amps Peak (RMS)	Catalog Number	Frame Size	Standard Cable Length max (m)	Flex Cables Length max (m)
195-528	1 phase and 3 phase	1	2.5	2198-H003-ERS*	Frame 1	50	30
195-528	1 phase and 3 phase	2.5	6.25	2198-H008-ERS*	Frame 1	50	30
195-528	1 phase and 3 phase	5	12.5	2198-H015-ERS*	Frame 2	50	30
195-528	3 phase	8.4	21	2198-H025-ERS*	Frame 2	50	50
195-528	3 phase	13	32.5	2198-H040-ERS*	Frame 2	50	50
195-528	3 phase	23	57.5	2198-H070-ERS*	Frame 3	50	50

** X=2 for Integrated Safety over EtherNet/IP*

VPL Low-Inertia Servo Motor Specifications

Frame Size (mm)	Rated Speed Range (RPM)	Continuous Torque, max, at Rated Speed (Nm)	Peak Stall Torque, max (Nm)
63	3000-8000	0.4-1.2	1.3-4.1
75	3300-8000	0.7-1.7	2.3-7.3
100	2250-7000	1.8-3.7	3.8-11.2
115	2150-6500	3.4-5.6	13.1-20.3
130	1600-4250	6.1-10.2	20.7-34.6
165	1850-4750	8.1-28.7	22.5-79.3



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