

Exclusive SensorlesServo™ Technology lowers total system costs.

MTS Automation Division offers a family of Integrated Drive Modules featuring our exclusive SensorlesServo™ Technology. Just think of SensorlesServo Technology as a way to lower total system cost, save panel space and optimize performance using modular drives.

SensorlesServo Technology gives you three-phase servo motor control without a shaft sensor. There's no need for resolvers, incremental encoders, commutating encoders or hall sensors. That reduces the wiring and cabling requirements of your system, as well as giving you a system that's more rugged and reliable.

The MTS Automation Division's family of Sensorless drives are perfect for motors where sensor costs are high, including direct drive torque motors and linear motors. They offer machine builders a better alternative to stepper systems: high speeds and power output; smooth and quiet operation; higher acceleration; torque control and position error feedback.

- Servo grade velocity control
- Medium absolute position accuracy (<1 degree)
- High position repeatability (5 arc minutes)
- For brushless servo motors (velocity and position servos)
- For AC induction motors (velocity servo only)
- Already proven with OEM customers, worldwide

SensorlesServo drive modules are ideal for OEMs and system integrators requiring the flexibility to independently optimize the thermal (i.e., heatsink), enclosure, and mounting configuration of their motion control system. Its small modular footprint enables it to be mounted to all types of heatsinks, cabinets, and NEMA rated enclosures.



DriveBlok® - SensorlesServo Adjustable Speed Drive for AC & Brushless Servo Motors

DriveBlok is a complete AC Sensorless, flux vector drive with the functionality and I/O subsystem of high-performance packaged drives. It can be configured to run either AC induction or brushless permanent magnet motors. Performance features include high starting torque; accurate and rapid speed regulation; 1.5 millisecond torque response and 100:1 constant torque speed range.

DriveBlok is the smallest, most flexible drive available in the 0.5 – 20 Hp range. It's easy to use and apply. DriveBlok is perfect for machine applications such as grinding, mixing, polishing, spindles, smart conveyors, winding and feeding.

IndexBlok® - SensorlesServo Drive with Indexing Capability for Brushless PM Motors

IndexBlok can position three-phase rotary or linear brushless permanent magnet, 0.75 – 21.5 kW motors without a sensor. The IndexBlok gives your system the performance of a Brushless Servo System (high torque, wide speed range, and smoothness) and exceptional closed loop position control during operation. An adjustable DC holding torque is applied while stopped.

The IndexBlok's enclosed power hybrid construction enables it to be used in a broad range of industrial, commercial, aerospace and other high reliability environments. IndexBlok is perfect for machine applications, such as smart conveyors, adjustable position and motion profiles, and rotary or linear indexing.

SpindleBlok® - SensorlesServo Drive for AC Induction Spindle Motors

SensorlesServo control brings a new cost proposition to Spindle applications that require both tight velocity control and high overload torque performance.

The SpindleBlok is perfect for interfacing with machine mounted operator stations (0 – 10VDC) or PC machine controllers (+/- 10VDC). Dynamic velocity performance is derived from our 400 microsecond velocity loop update rate and 1.5 millisecond torque response. With the combination of the above and high overload torque ratings (150% for 1 min. / 200% for 3 sec. / 250% starting torque) without over sizing, SpindleBlok is excellent for the most demanding spindle motor applications. Acceleration profiles are optimized over the entire speed range based on the instantaneous torque capability of the motor. Additional features with SpindleBlok include Spindle Orient and Rigid Tapping which require a spindle position sensor with derived information being sent to the machine controller.

A better building block for machine builders.

The MTS family of SensorlesServo drives provides Machine Builders with a complete line of modular, component-based or fully-packaged drives leading to lower total system cost through small flexible form factors and a wide range of application control options.

Each gives you a complete motor drive in a hybrid power module. The module includes all power circuitry, isolation, and microcontroller required to run three-phase motors.

With the addition of CapBlok® high reliability electrolytic filter capacitor module, DriveBlok,

IndexBlok, and SpindleBlok can be used at elevated temperatures and in other demanding environments without compromising reliability.

SensorlesServo Features

- No Encoders, Resolvers, Tachometers or Hall Sensors
- Customizable for OEM Applications
- Closed Loop Tracking of Estimated Flux Vector
- Excellent Starting Torque
- Accurate Speed Regulation
- Rapid Response to Transients
- Compatible with both BLDC and AC Motors
- Accurate Four Quadrant Torque and Velocity Control
- Small Physical Size
- Autotuning to Ease and Enhance Setup
- Diagnostic Fault Codes
- Custom Configurations Available from Factory
- Parameter Table Setup
- Fewer Components
- Blok Concept for Custom OEM Applications, Separate CapBlok, Power Module and Heatsink
- Improved System Reliability
- Optimized Carrier Frequency
- Wide Constant Torque Speed Range
- Smooth Operation
- Simplified System Solutions
- Excellent High and Low Speed Performance
- Configurable for Shared DC Bus or AC Power Applications

MTS Automation Division is a leader in the design, technology development and manufacturing of a comprehensive line of brushless servo motors, linear motors, high performance digital and analog servo amplifiers, MACRO interface drives, and single-, dual- and multi-axis drives, motion controllers offering 1-28 axes of controls, as well as the entire line of SensorlesServo products.



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