



MAGNETRA

SYSTEM

POWERING MOTION.
DRIVING TOMORROW.

Advanced Motor Controllers for smarter, safer and more efficient industrial applications. Engineered for reliability and built for performance.



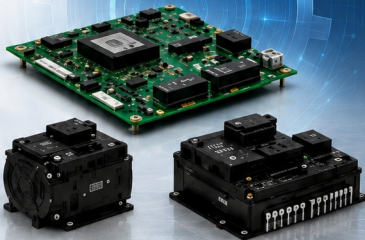
High
Performance



Multiple
Protections



Compact
& Rugged



MOTOR CONTROLLERS

ADVANCED CONTROL. SUPERIOR PERFORMANCE.

- 24V – 800V
- Sensorless FOC
- Hall FOC
- Square Wave
- Sinusoidal
- Vector Control

- CAN
- UART
- RS485
- BLE
- WiFi



High-performance motor controllers designed for precision, efficiency, and reliability across a wide range of industrial and embedded applications.



High
Reliability



Low
Noise



Compact
Design



Easy
Integration

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FACTORY & WAREHOUSE

22/1, Near Chakan-Talegaon Highway,
Khalumbre, Chakan,
Pune, Maharashtra, India

MOTOR CONTROLLERS

ADVANCED CONTROL. SUPERIOR PERFORMANCE.

Our wide range of motor controllers delivers high efficiency, precision control, reliability and adaptability for every application and industry.



High Performance



Reliable & Safe



Energy Efficient



Advanced Control



Wide Compatibility



Built for Industry



TYPES OF MOTOR CONTROLLERS

BLDC MOTOR CONTROLLERS



- High Efficiency
- Smooth Operation
- Low Noise
- Compact Design
- Wide Voltage Range

Applications:



PMSM MOTOR CONTROLLERS



- Field Oriented Control
- High Torque Density
- High Efficiency
- Precise Speed Control
- Regenerative Braking

Applications:



AC INDUCTION MOTOR CONTROLLERS



- Reliable & Robust
- Scalar / Vector Control
- Soft Start / Stop
- Overload Protection
- Wide Power Range

Applications:



SWITCHED RELUCTANCE MOTOR CONTROLLERS



- High Efficiency
- Simple Rotor Structure
- Advanced SRM Control
- Fault Tolerant
- Wide Speed Range

Applications:



SERVO MOTOR CONTROLLERS



- High Precision
- Position / Speed Control
- High Dynamic Response
- Multi-Axis Support
- EtherCAT / CANopen

Applications:



DC MOTOR CONTROLLERS



- Cost Effective
- PWM Control
- Forward / Reverse
- Speed Control
- Overcurrent Protection

Applications:



STEPPER MOTOR CONTROLLERS



- Microstepping
- Smooth Motion
- High Accuracy
- Low Vibration
- Wide Voltage Range

Applications:



CUSTOM MOTOR CONTROLLERS



- Application Specific Design
- Protocol Customization
- Rugged Enclosures
- Advanced Features
- End-to-End Support

Applications:



FOC MOTOR CONTROLLERS



- Field Oriented Control
- High Efficiency
- Precise Torque Control
- Smooth & Silent
- Energy Saving

Applications:



SENSORLESS MOTOR CONTROLLERS



- Sensorless Control
- High Efficiency
- Cost Effective
- Reliable Operation
- Wide Speed Range

Applications:



HALL SENSOR BASED MOTOR CONTROLLERS



- Hall Feedback Control
- Accurate Commutation
- High Reliability
- Smooth Operation
- Wide Compatibility

Applications:



VECTOR CONTROL MOTOR CONTROLLERS



- Vector Control
- High Performance
- Low Ripple Current
- Precise Speed & Torque
- High-Power Density

Applications:



HIGH VOLTAGE MOTOR CONTROLLERS



- High Voltage Support
- High Power Density
- Rugged & Reliable
- Advanced Protection
- EV Grade Performance

Applications:



LOW VOLTAGE MOTOR CONTROLLERS



- Low Voltage Operation
- Compact & Light
- Easy Integration
- Cost Effective
- Efficient Control

Applications:



REGENERATIVE BRAKING CONTROLLERS



- Energy Recovery
- Extended Range
- Better Efficiency
- Thermal Management
- Safe & Reliable

Applications:



MULTI-MOTOR CONTROLLERS



- Multiple Motor Control
- Synchronized Operation
- Compact Design
- High Reliability
- Scalable Solutions

Applications:



Advanced Algorithms



Thermal Protection



Overcurrent Protection



Short Circuit Protection



Firmware Upgradable



Customizable Solutions



ENGINEERED FOR RELIABILITY.
BUILT FOR PERFORMANCE.

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MOTOR CONTROLLERS

ADVANCED CONTROL. SUPERIOR PERFORMANCE.

Our motor controllers are engineered to deliver precise control, high efficiency, and unmatched reliability for a wide range of industrial and commercial applications.



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1 BLDC MOTOR CONTROLLERS

HIGH EFFICIENCY • SMOOTH CONTROL • COMPACT DESIGN



BLDC Motor Controllers are designed for brushless DC motors, offering high efficiency, smooth and silent operation with precise speed and torque control.

KEY FEATURES

- ✓ High Efficiency
- ✓ Smooth Operation
- ✓ Low Noise
- ✓ Compact Design
- ✓ Wide Voltage Range

TECHNICAL HIGHLIGHTS

Input Voltage : 12V - 120V DC
 Continuous Current : Up to 100A
 Control Method : Sensorless / Hall Sensor
 PWM Frequency : 16kHz
 Protection : OVP, UVP, OCP, OTP
 Communication : CAN / UART / PWM

WHY CHOOSE BLDC CONTROLLERS?

-  High power density and efficiency
-  Longer motor life & low maintenance
-  Excellent speed regulation
-  Ideal for battery-powered applications

APPLICATIONS



ELECTRIC VEHICLES

Powering e-bikes, e-scooters, and electric motorcycles.



DRONES & UAVs

Reliable and efficient motor control for drones and UAV systems.



INDUSTRIAL AUTOMATION

Used in robotics, conveyors, and precision industrial equipment.



HOME APPLIANCES

Ideal for BLDC fans, pumps, washing machines, and other smart appliances.



POWER TOOLS

Provides precise speed control and high torque for power tools.



PUMPS & COMPRESSORS

Efficient control for water pumps, air compressors, and vacuum pumps.

2 PMSM MOTOR CONTROLLERS

HIGH TORQUE • PRECISE CONTROL • REGENERATIVE SUPPORT



PMSM Motor Controllers are built for Permanent Magnet Synchronous Motors, delivering high torque density, excellent dynamic response, and superior efficiency.

KEY FEATURES

- ✓ Field Oriented Control (FOC)
- ✓ High Torque Density
- ✓ High Efficiency
- ✓ Precise Speed Control
- ✓ Regenerative Braking

TECHNICAL HIGHLIGHTS

Input Voltage : 24V - 400V DC
 Continuous Current : Up to 300A
 Control Method : FOC (Vector Control)
 PWM Frequency : 16kHz - 20kHz
 Protection : OVP, UVP, OCP, OTP
 Communication : CAN / UART / RS485

WHY CHOOSE PMSM CONTROLLERS?

-  High torque with compact size
-  Excellent efficiency & power factor
-  Smooth & precise motion control
-  Supports regenerative braking

APPLICATIONS



ELECTRIC VEHICLES

Meat for EV traction motors in cars, buses, and commercial vehicles.



INDUSTRIAL MACHINERY

Used in CNC machines, spindles, servo drives, and heavy equipment.



AGV / AMRs

High performance control for automated guided vehicles.



ELEVATORS & LIFTS

Smooth and precise control for elevators and lift systems.



HVAC SYSTEMS

Used in high efficiency compressors, chillers, and ventilation systems.



RAIL & METRO

Reliable motor control for trams, metros, and railway applications.



Advanced Algorithms



Thermal Protection



Overcurrent Protection



Short Circuit Protection



Firmware Upgradeable



Customizable Solutions



ENGINEERED FOR RELIABILITY.
BUILT FOR PERFORMANCE.

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High Efficiency



Reliable & Robust



Precise Control



Wide Compatibility



Built for Industry



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3 AC INDUCTION MOTOR CONTROLLERS

RELIABLE & ROBUST • PRECISE CONTROL • WIDE COMPATIBILITY



AC Induction Motor Controllers provide reliable and efficient control of AC Induction motors, offering smooth start/stop, speed regulation, and superior protection for industrial applications.

KEY FEATURES

- ✓ Reliable & Robust
- ✓ Scalar / Vector Control
- ✓ Soft Start / Stop
- ✓ Overload Protection
- ✓ Wide Power Range

TECHNICAL HIGHLIGHTS

Input Voltage : 200V - 480V AC
Continuous Current : Up to 500A
Control Method : V/Hz, Vector Control (FOC)
PWM Frequency : 2kHz - 16kHz
Protection : OVP, UVP, OCP, OTP
Communication : CAN / UART / RS485

WHY CHOOSE AC INDUCTION CONTROLLERS?

- High efficiency and energy savings
- Smooth acceleration and deceleration
- Strong protection and durability
- Suitable for a wide range of industries

APPLICATIONS



PUMPS

Efficient speed control for water, sewage, and booster pumps.



FANS & BLOWERS

Maintains optimal airflow with energy-efficient operation.



CONVEYORS

Ensures smooth and consistent material handling.



COMPRESSORS

Reliable control for air compressors and industrial gas systems.



HVAC SYSTEMS

Used in chillers, cooling towers, and ventilation systems.



INDUSTRIAL MACHINERY

Ideal for motors in mixers, crushers, and other heavy equipment.

4 SWITCHED RELUCTANCE MOTOR CONTROLLERS

HIGH EFFICIENCY • SIMPLE & ROBUST • WIDE SPEED RANGE



Switched Reluctance Motor Controllers are designed for high efficiency and rugged performance, providing precise control for SRM drives in demanding applications.

KEY FEATURES

- ✓ High Efficiency
- ✓ Simple Rotor Structure
- ✓ Advanced SRM Control
- ✓ Fault Tolerant
- ✓ Wide Speed Range

TECHNICAL HIGHLIGHTS

Input Voltage : 48V - 400V DC
Continuous Current : Up to 300A
Control Method : SRM Advanced Control
PWM Frequency : 10kHz - 20kHz
Protection : OVP, UVP, OCP, OTP
Communication : CAN / UART / RS485

WHY CHOOSE SRM CONTROLLERS?

- High efficiency with wide speed range
- Robust and fault-tolerant design
- Lower maintenance & long life
- Ideal for harsh & high-performance applications

APPLICATIONS



ELECTRIC VEHICLES

Used in traction motors for high torque and efficiency.



E-BIKES & E-SCOOTERS

Compact and efficient control for personal electric mobility.



INDUSTRIAL DRIVES

Ideal for high speed and high torque industrial drives.



WASHING MACHINES

Reliable and efficient performance in home appliances.



POWER TOOLS

High speed control for durable and powerful operation.



AUTOMOTIVE AUXILIARIES

Effective control for water pumps, oil pumps, and cooling fans.



Advanced Algorithms



Thermal Protection



Overcurrent Protection



Short Circuit Protection



Firmware Upgradable



Customizable Solutions



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5 SERVO MOTOR CONTROLLERS

HIGH PRECISION • DYNAMIC RESPONSE • ADVANCED CONTROL



Servo Motor Controllers deliver high precision position, speed, and torque control for servo motors, ensuring exceptional accuracy, dynamic response, and smooth operation.

KEY FEATURES

- ✓ High Precision Control
- ✓ Position / Speed / Torque Control
- ✓ High Dynamic Response
- ✓ Multi-Axis Support
- ✓ EtherCAT / CANopen Support

TECHNICAL HIGHLIGHTS

Input Voltage : 24V - 80V DC
Continuous Current : Up to 50A
Control Method : Field Oriented Control (FOC)
Encoder Support : Incremental / Absolute
Protection : OVP, UVP, OCP, OTP
Communication : CAN / EtherCAT / RS485

WHY CHOOSE SERVO CONTROLLERS?

- Ultra-high precision and accuracy
- Fast dynamic response
- Smooth motion with low vibration
- Ideal for robotics and CNC applications

APPLICATIONS



ROBOTICS

Precise motion control for robotic arms and automation systems.



CNC MACHINES

High accuracy and smooth control for CNC milling, turning and machining.



PACKAGING MACHINERY

Accurate positioning and speed control for packaging and labeling machines.



PRINTING MACHINES

Constant speed and precise registration control for high quality printing.



AUTOMATION SYSTEMS

Reliable and efficient control for automated production lines.



SEMICONDUCTOR EQUIPMENT

High precision control for semiconductor and inspection equipment.

6 DC MOTOR CONTROLLERS

COST EFFECTIVE • RELIABLE CONTROL • WIDE APPLICATION



DC Motor Controllers provide reliable and cost-effective speed and direction control for brushed DC motors in a wide range of industrial and commercial applications.

KEY FEATURES

- ✓ Cost Effective Solution
- ✓ PWM Speed Control
- ✓ Forward / Reverse Control
- ✓ Speed Feedback Support
- ✓ Overcurrent Protection

TECHNICAL HIGHLIGHTS

Input Voltage : 12V - 60V DC
Continuous Current : Up to 60A
Control Method : PWM Control
Speed Control : 0 - 100%
Protection : OCP, OTP, UVP
Communication : Optional (UART / RS485)

WHY CHOOSE DC CONTROLLERS?

- Affordable and reliable
- Simple integration and operation
- Efficient speed and direction control
- Ideal for a wide range of applications

APPLICATIONS



MATERIAL HANDLING

Used in conveyors, lifts, hoists, and automated handling systems.



ELECTRIC VEHICLES

Speed and direction control for electric carts, loaders, and utility vehicles.



AGRICULTURAL EQUIPMENT

Reliable motor control for sprayers, spreaders, and farm equipment.



CLEANING MACHINES

Efficient control for floor cleaners, vacuum systems, and sweepers.



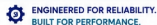
FANS & BLOWERS

Speed control for HVAC fans, exhaust systems, and ventilation units.



PUMPS

Used in water pumps, chemical pumps, and booster pump systems.



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7 STEPPER MOTOR CONTROLLERS

PRECISE POSITIONING • SMOOTH MOTION • HIGH ACCURACY



Stepper Motor Controllers deliver accurate positioning and smooth low-speed operation, making them ideal for applications that require precise motion control and repeatability.

KEY FEATURES

- ✓ Microstepping Control
- ✓ Smooth & Quiet Motion
- ✓ High Positioning Accuracy
- ✓ Wide Microstep Resolution
- ✓ Protection & Diagnostics

TECHNICAL HIGHLIGHTS

Input Voltage	: 18V - 80V DC
Output Current	: Up to 8.0A/phase
Control Method	: Microstepping (1/1 to 1/256)
Step Pulse Frequency	: Up to 200kHz
Protection	: OCP, OVP, UVP, OTP
Communication	: Optional (UART / RS485)

WHY CHOOSE STEPPER CONTROLLERS?

- ⊙ High positioning accuracy & repeatability
- ⊙ Smooth and vibration-free operation
- ⚙ Wide range of microstepping options
- 🔧 Ideal for open-loop positioning systems

APPLICATIONS



3D PRINTERS

- 🔧 Precise layer by layer movement for high quality prints.



CNC ROUTERS

- ⚙ Accurate positioning for cutting, engraving and milling.



PICK & PLACE MACHINES

- 🔧 Precise motion for component placement in electronics.



LAB AUTOMATION

- 🔧 Reliable movement for sample handling and testing systems.



MEDICAL DEVICES

- 🔧 Used in infusion pumps, scanners, and diagnostic equipment.



TEXTILE MACHINERY

- 🔧 Accurate control of needle positioning and fabric handling.

8 CUSTOM MOTOR CONTROLLERS

TAILOR-MADE SOLUTIONS • FLEXIBLE DESIGN • END-TO-END SUPPORT



Custom Motor Controllers are designed and developed to meet unique applications requirements with specialized features, interfaces, and performance needs.

KEY FEATURES

- ✓ Application Specific Design
- ✓ Custom Firmware & Logic
- ✓ Flexible I/O & Interfaces
- ✓ Rugged & Compact Design
- ✓ End-to-End Support

TECHNICAL HIGHLIGHTS

Input Voltage	: As per Requirement
Output Current	: As per Requirement
Control Method	: Customized
Communication	: CAN / UART / RS485 / EtherCAT / I2C / SPI
Operating Temperature	: -40°C to +85°C
Enclosure	: IP20 / IP65 (Optional)

WHY CHOOSE CUSTOM CONTROLLERS?

- ⊙ Designed for unique applications
- ⊙ Optimize performance & cost
- ⚙ Scalable and future-ready solutions
- 🔧 Dedicated engineering support

APPLICATIONS



AGV / AMR SYSTEMS

- 🔧 Custom control for navigation, drive, safety & sensors.



ROBOTIC SYSTEMS

- 🔧 Tailor-made controllers for complex robotic motion & kinematics.



SPECIAL PURPOSE MACHINES

- 🔧 Built for unique industrial machines and process requirements.



AEROSPACE & DEFENSE

- 🔧 High reliability controllers for critical aerospace and defense systems.



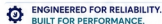
TEST & MEASUREMENT

- 🔧 Precise control for specialized testing and measurement.



ENERGY & RENEWABLES

- 🔧 Custom solutions for wind turbines, solar trackers and energy systems.



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High Efficiency



Reliable & Robust



Precise Control



Wide Compatibility



Built for Industry



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9 HVAC MOTOR CONTROLLERS

ENERGY EFFICIENT • QUIET OPERATION • RELIABLE PERFORMANCE



HVAC Motor Controllers are optimized for fans, blowers, compressors, and pumps used in heating, ventilation, and air conditioning systems, ensuring efficient and reliable operation.

KEY FEATURES

- ✓ Variable Speed Control
- ✓ Quiet & Smooth Operation
- ✓ Energy Efficient
- ✓ Thermal Protection
- ✓ Multi-Protocol Support (Modbus / BACnet)
- ✓ Easy Integration

TECHNICAL HIGHLIGHTS

Input Voltage : 24V – 480V AC
Output Current : Up to 40A
Control Method : VFD / Vector Control
PWM Frequency : 2kHz – 16kHz
Protection : OVP, UVP, OCP, OTP
Communication : Modbus RTU / BACnet / CAN / RS485

WHY CHOOSE HVAC CONTROLLERS?

- Optimized for HVAC applications
- Energy savings and reduced operational cost
- Consistent airflow & temperature control
- Long life with high reliability
- Easy integration with BMS systems

APPLICATIONS



AIR HANDLING UNITS
Control fan speed and airflow for optimal ventilation.



CHILLERS
Efficient control of compressors and pumps.



FANS & BLOWERS
Regulate speed for consistent airflow and pressure.



VRF / VRV SYSTEMS
Precise control for variable refrigerant flow systems.



VENTILATION SYSTEMS
Maintain indoor air quality with efficient operation.



HVAC PUMPS
Reliable speed control for pumps in heating & cooling systems.

10 MATERIAL HANDLING MOTOR CONTROLLERS

DURABLE • PRECISE CONTROL • BUILT FOR HEAVY DUTY



Material Handling Motor Controllers are built to withstand harsh industrial environments and provide reliable control for motors used in forklifts, conveyors, hoists, AGVs, and other material handling equipment.

KEY FEATURES

- ✓ High Load Handling Capacity
- ✓ Robust & Rugged Design
- ✓ Smooth Start / Stop
- ✓ Regenerative Braking
- ✓ Multiple I/O Support
- ✓ EMI / EMC Compliant

TECHNICAL HIGHLIGHTS

Input Voltage : 24V – 96V DC / 200 – 480V AC
Output Current : Up to 300A
Control Method : Field Oriented Control (FOC)
PWM Frequency : 4kHz – 20kHz
Protection : OCP, OVP, UVP, OTP, Overload
Communication : CAN / RS485 / UART (Optional)

WHY CHOOSE MATERIAL HANDLING CONTROLLERS?

- Built for harsh and demanding environments
- High reliability and long service life
- Precise control for productivity
- Supports regenerative braking for energy savings
- Flexible and scalable solutions

APPLICATIONS



FORKLIFTS
Smooth drive speed lift airflow with high efficiency.



CONVEYORS
Precise speed control for belt and roller conveyors.



HOISTS & CRANES
Safe and reliable control for lifting and lowering operations.



AGVs / AMRs
Efficient motor control for navigation and movement.



PALLET MOVERS
Reliable control for pallet handling equipment.



AUTOMATED SYSTEMS
Ideal for automated warehouses and sorting systems.



Advanced Protection



Thermal Management



Overcurrent Protection



EMI / EMC Compliant



Compact & Rugged Design



Easy Integration



ENGINEERED FOR RELIABILITY.
BUILT FOR PERFORMANCE.

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11 PMSM (BLDC) MOTOR CONTROLLERS

HIGH EFFICIENCY • SMOOTH CONTROL • ENERGY SAVING



PMSM (BLDC) Motor Controllers are designed for high-performance brushless DC motors used in EVs, robotics, industrial automation, and energy-efficient applications.

KEY FEATURES

- ✓ Servoless / Hall Sensor Control
- ✓ High Torque & Efficiency
- ✓ Field Oriented Control (FOC)
- ✓ Regenerative Braking
- ✓ Low Noise & Vibration
- ✓ Wide Speed Range
- ✓ Multiple Protection

TECHNICAL HIGHLIGHTS

- Input Voltage: 24V - 96V DC / 200 - 600V AC
- Output Current: Up to 300A
- Control Method: FOC / Sine Wave Control
- Encoder Support: Built-in / Absolute
- Protection: OVP, UVP, OCP, OTP, Stall, Phase Loss, Stall
- Communication: CAN / UART / RS485

WHY CHOOSE PMSM CONTROLLERS?

- ➊ Maximum efficiency & power density
- ➋ Superior dynamic performance
- ➌ Low maintenance & long life
- ➍ Ideal for EV, robotics & industrial drives
- ➎ Supports regenerative energy

APPLICATIONS



ELECTRIC VEHICLES

Used in EV traction motors for high efficiency and longer range.



ROBOTICS

Enables precise motion control for robotic arms and automation.



INDUSTRIAL DRIVES

Ideal for high-speed and high-torque industrial motor applications.



AGVs / AMRs

Provides smooth and efficient control for autonomous robots.



E-BIKES & E-SCOOTERS

Ensures high torque, smooth acceleration, and energy savings.



ENERGY STORAGE

Used in battery storage systems with BOD motor drives.

12 STEPPER MOTOR CONTROLLERS

PRECISE POSITIONING • SMOOTH MOTION • HIGH ACCURACY



Stepper Motor Controllers provide accurate step-by-step motion control, making them ideal for applications requiring precise positioning and repeatable movement.

KEY FEATURES

- ✓ Microstepping Control
- ✓ High Positioning Accuracy
- ✓ Smooth & Quiet Operation
- ✓ Anti-resonance Technology
- ✓ High Holding Torque
- ✓ Easy Setup & Configuration

TECHNICAL HIGHLIGHTS

- Input Voltage: 12V - 48V DC / 18V - 80V DC
- Output Current: Up to 6.0A/phase
- Control Method: Microstepping (1/1 to 1/256)
- Step Resolution: Up to 25600 steps/rev
- Protection: OCP, OVP, UVP, OTP, Stall, Overheat
- Communication: Optional (RS485 / UART)

WHY CHOOSE STEPPER CONTROLLERS?

- ➊ High accuracy and repeatability
- ➋ Excellent low-speed performance
- ➌ Cost-effective and reliable
- ➍ Ideal for positioning & indexing tasks
- ➎ Easy integration & compact design

APPLICATIONS



CNC MACHINES

Accurate positioning for CNC routers, laser cutters, and mills.



3D PRINTERS

Precise layer-by-layer movement for high quality prints.



PICK & PLACE MACHINES

Ensures accurate positioning for component placement in electronics.



MEDICAL EQUIPMENT

Used in syringe pumps, scanners, and diagnostic instruments.



TEXTILE MACHINERY

Controls fabric movement and tension with high precision.



CAMERA & OPTICAL SYSTEMS

Provides precise movement for focusing and positioning optical devices.



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13 SERVO MOTOR CONTROLLERS

HIGH PRECISION • DYNAMIC RESPONSE • MULTI-AXIS CONTROL



Servo Motor Controllers deliver high precision, high-speed responses, and accurate torque control. Ideal for demanding industrial automation and robotics applications.

KEY FEATURES

- ✓ High Precision Position Control
- ✓ Velocity & Torque Control
- ✓ High Dynamic Response
- ✓ Multi-Axis Synchronization
- ✓ Auto Tuning & Diagnostics
- ✓ EtherCAT / CANopen Support

TECHNICAL HIGHLIGHTS

- Input Voltage: 24V - 96V DC / 200 - 600V AC
- Output Current: Up to 200A
- Control Method: FOC / Vector Control
- Encoder Support: Incremental / Absolute
- Protection: OVP, UVP, OCP, OTP, Phase Loss, Stall
- Communication: EtherCAT / CANopen / Absolute RTU / RS485

WHY CHOOSE SERVO CONTROLLERS?

- ➊ Ultra-high precision & accuracy
- ➋ Fast response & smooth motion
- ➌ Supports complex motion profiles
- ➍ Reliable & robust for industrial use
- ➎ Easy integration with automation systems

APPLICATIONS



INDUSTRIAL ROBOTS

Precise motion control for robotic arms and SCARA robots.



CNC MACHINES

High-accuracy control for milling, turning, and grinding operations.



PACKAGING MACHINES

Synchronized motion for fast and accurate packaging lines.



SEMI-CONDUCTING EQUIPMENT

Ideal in wafer handling, inspection, and alignment systems.



PRINTING MACHINES

Ensures precise paper feed, inking, and positioning in high-speed printing.



AUTOMATION SYSTEMS

Supports control for turnkey systems and factories.

14 CUSTOM INTEGRATED CONTROLLERS

TAILOR-MADE • FLEXIBLE DESIGN • END-TO-END SOLUTIONS



Custom Integrated Controllers are engineered to meet unique application requirements with specialized hardware, firmware, and interfaces for optimal performance.

KEY FEATURES

- ✓ Application Specific Design
- ✓ Custom Firmware & Logic
- ✓ Multiple I/O & Interface
- ✓ Rugged & Compact Design
- ✓ End-to-End Support
- ✓ Scalable & Future Ready

TECHNICAL HIGHLIGHTS

- Input Voltage: As per requirement
- Output Current: As per requirement
- Control Method: Custom (FOC / PWM / Hybrid)
- Communication: CAN / UART / RS485 / EtherCAT / I2C / SPI
- Operating Temp: -40°C to +85°C
- Enclosure: IP67 / IP95 (Optional)

WHY CHOOSE CUSTOM CONTROLLERS?

- ➊ Designed for unique applications
- ➋ Optimized performance & cost
- ➌ Flexible hardware & software
- ➍ Scalable for future needs
- ➎ Dedicated engineering support



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MOTOR CONTROLLERS

ADVANCED CONTROL. SUPERIOR PERFORMANCE.



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15 AC INDUCTION MOTOR CONTROLLERS

VERSATILE CONTROL • ENERGY EFFICIENT • INDUSTRY GRADE



AC Induction Motor Controllers provide efficient speed and torque control of AC induction motors using advanced control techniques for industrial and commercial applications.

KEY FEATURES

- ✓ VF Control, Vector Control (FOC)
- ✓ Soft Start / Soft Stop
- ✓ Energy Efficient Operation
- ✓ Overload & Overheat Protection
- ✓ Multi-Parameter Monitoring
- ✓ Modbus RTU / RS485 / CAN

TECHNICAL HIGHLIGHTS

- Input Voltage : 200 - 480V AC
- Output Power : Up to 250kW
- Control Method : V/F, Sensorless Vector, Field Oriented Control
- Switching Frequency : 2kHz - 16kHz
- Protection : OCP, OVP, UVP, OTP, Overload, Stall
- Communication : Modbus RTU / CAN / RS485

WHY CHOOSE AC INDUCTION MOTOR CONTROLLERS?

-  High efficiency and reliability
-  Smooth speed control
-  Reduced energy consumption
-  Wide power range
-  Ideal for industrial applications

APPLICATIONS



PUMPS

Used in water supply, irrigation, and industrial pumping systems.



FANS & BLOWERS

Precise speed control for air handling and ventilation systems.



CONVEYORS

Reliable control for belt, roller, and material handling conveyors.



COMPRESSORS

Efficient operation of air compressors for various industrial applications.



HVAC SYSTEMS

Ideal for chillers, cooling towers, and air conditioning systems.



MILLS & CRUSHERS

High torque and robust control for heavy duty machinery.

-  Soft Start Function
-  Overload Protection
-  Thermal Protection
-  Energy Efficient
-  Remote Monitoring
-  Compact & Durable

ENGINEERED FOR RELIABILITY.
BUILT FOR PERFORMANCE.

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MOTOR CONTROLLERS

ADVANCED CONTROL. SUPERIOR PERFORMANCE.



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16 SWITCHED RELUCTANCE MOTOR CONTROLLERS

SIMPLE. ROBUST. EFFICIENT.



Switched Reluctance Motor Controllers are designed to drive SRMs with high efficiency, simple construction, and wide speed range, suitable for demanding industrial applications.

KEY FEATURES

- ✓ Independent Phase Control
- ✓ High Efficiency & Power Density
- ✓ Wide Speed Range
- ✓ Position Sensor / Sensorless Options
- ✓ Regenerative Braking Support
- ✓ Robust & Reliable Design

TECHNICAL HIGHLIGHTS

- Input Voltage : 24V - 480V DC
- Output Power : Up to 50kW
- Control Method : Hysteresis / PWM
- Switching Frequency : 10kHz - 40kHz
- Protection : OCP, OVP, UVP, OTP, Stall
- Communication : CAN / RS485 / UART (Support Optional)

WHY CHOOSE SRM CONTROLLERS?

-  High efficiency and simple motor construction
-  Wide speed and high torque capability
-  Robust performance in harsh environments
-  Cost-effective solution
-  Ideal for EV, industrial & aerospace applications

APPLICATIONS



ELECTRIC VEHICLES

Ideal for EV traction motors with high efficiency and wide speed range.



INDUSTRIAL AUTOMATION

Reliable control for robotics, CNC machines, and automated systems.



AEROSPACE SYSTEMS

High reliability and efficiency for aerospace actuators and control systems.



PUMPS & COMPRESSORS

Efficient and robust control for pumps, compressors, and blowers.



WIND TURBINES

Suitable for pitch control and yaw drive applications in wind energy systems.



RAILWAY SYSTEMS

High torque and efficiency for traction and auxiliary railway systems.

-  High Power Density
-  Wide Speed Range
-  Regenerative Braking
-  Sensorless Control
-  Compact Design
-  Industrial Grade

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MAGNETRA
— SYSTEMS —
MOTION. CONTROL. INTELLIGENCE.

THANK YOU

FOR EXPLORING OUR RANGE OF MOTOR CONTROLLERS!

Magnetra Systems is committed to delivering high-performance, reliable and intelligent motor control solutions that power a smarter, cleaner and more efficient world.



**ENGINEERED
FOR RELIABILITY**



**BUILT FOR
PERFORMANCE**



**DESIGNED FOR
FLEXIBILITY**



**PARTNERED FOR
YOUR SUCCESS**



“**Intelligent Control.
Smarter Motion.
Better Tomorrow.**”

WHY CHOOSE MAGNETRA SYSTEMS?



EXPERT ENGINEERING
Experienced team delivering innovative and reliable motion control solutions.



QUALITY ASSURANCE
Rigorous testing and quality standards for long-lasting performance.



TECHNICAL SUPPORT
Dedicated pre-sales and after-sales support from our experts.



CUSTOM SOLUTIONS
Tailor-made controllers to meet unique application requirements.



ON-TIME DELIVERY
Efficient manufacturing and global supply chain for timely delivery.



SUSTAINABLE FUTURE
Energy-efficient solutions for a greener and sustainable tomorrow.

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OUR GLOBAL REACH

Delivering intelligent motion control solutions to industries around the world.



INDUSTRIES WE SERVE



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**AUTOMOTIVE
& EV**



**ENERGY &
RENEWABLES**



**MEDICAL
EQUIPMENT**



**AEROSPACE &
DEFENSE**



**MATERIAL
HANDLING**

**LET'S BUILD SMARTER,
STRONGER & MORE
EFFICIENT FUTURES
TOGETHER.**



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Share your requirements



DESIGN
We engineer the right solution



DELIVER
Reliable products & ongoing support



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