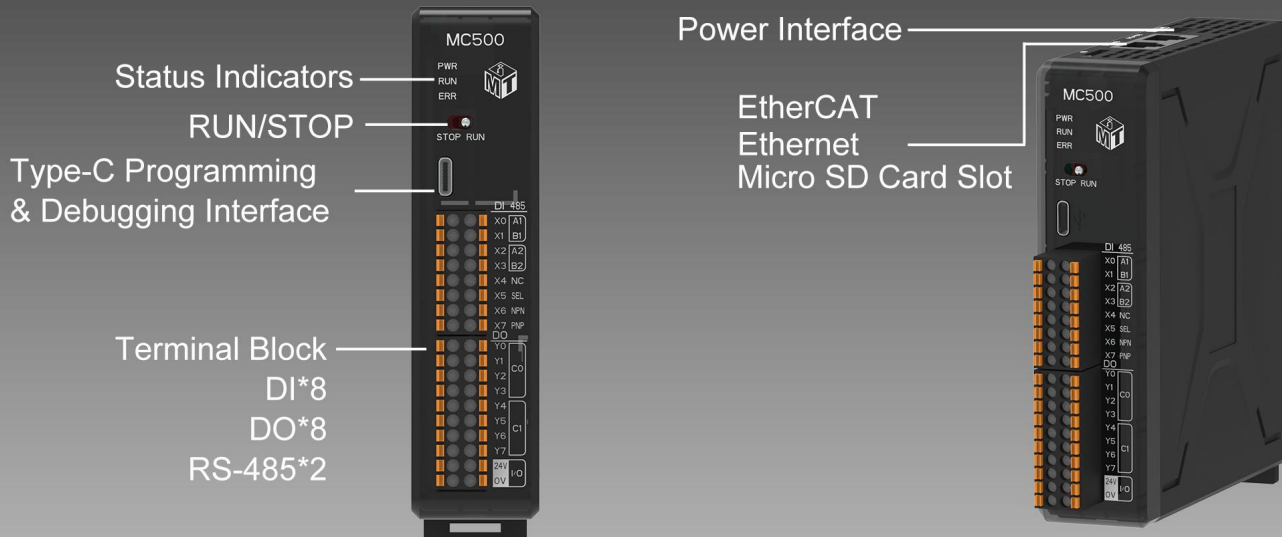




MC500 Series

Programmable Logic Controller (PLC)



About the Product

The MC500 series is a standard programmable logic controller (PLC) launched by MT-Drive. Developed based on a general software platform for servo applications, it adopts IEC 61131-3 programming languages, featuring rich library files, SoftMotion motion control functions, and modular programming. It supports multiple industrial fieldbus communications, including EtherCAT, Ethernet, Modbus TCP/IP, and RS485 (expandable up to 2 channels).

When paired with MT-Drive's multi-axis bus servo systems and remote I/O modules, the MC500 series is suitable for stand-alone automated equipment and combined production lines in CNC/CNC-like applications, packaging, printing, semiconductors, medical equipment, and more. It meets the demands for improved production efficiency and control accuracy, providing complete industry solutions. It helps users achieve standardized and standardized development management, reducing personnel training costs.

Product Features



The controller is equipped with 8 channels of DI and DO; 1 Ethernet port, 1 EtherCAT port supporting up to 192 slave devices; and 2 RS-485 serial ports.



Developed based on a universal software platform, it is easy to use, effectively reducing project development hours and improving development efficiency.

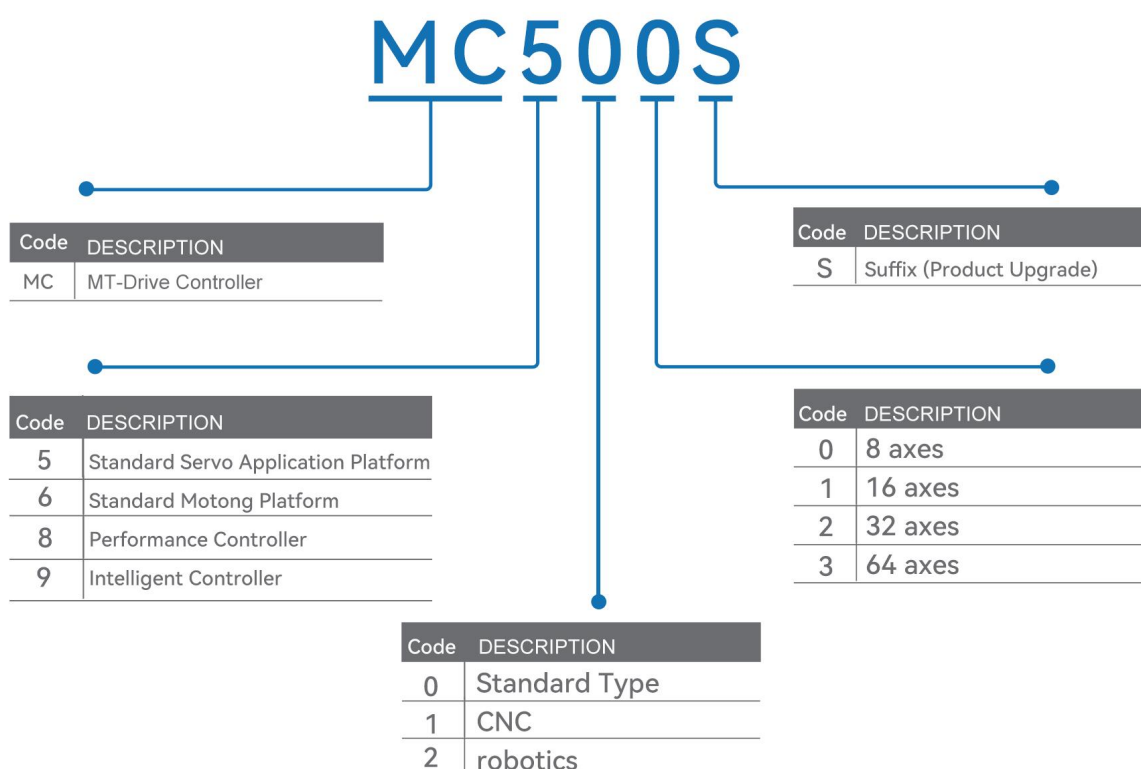


EtherCAT-based bus motion control supports up to 32 axes of servo and 32-axis electronic cam control with a synchronization cycle of 4ms. Its high-speed, high-precision motion control capability enables large-scale, multi-axis motion control applications.



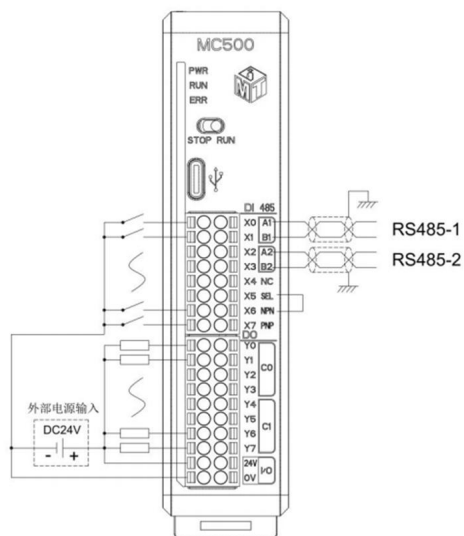
Equipped with a 1.2GHz quad-core processor for faster instruction execution and data processing; 1GB of RAM for shorter system boot and program loading times; and 16GB of storage capacity to support large programs and data storage, enabling more complex control logic and data processing.

Naming Rules

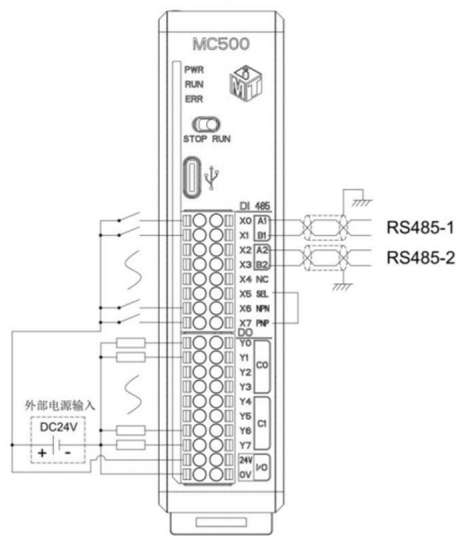




Wiring Diagram



Front View (NPN Type)

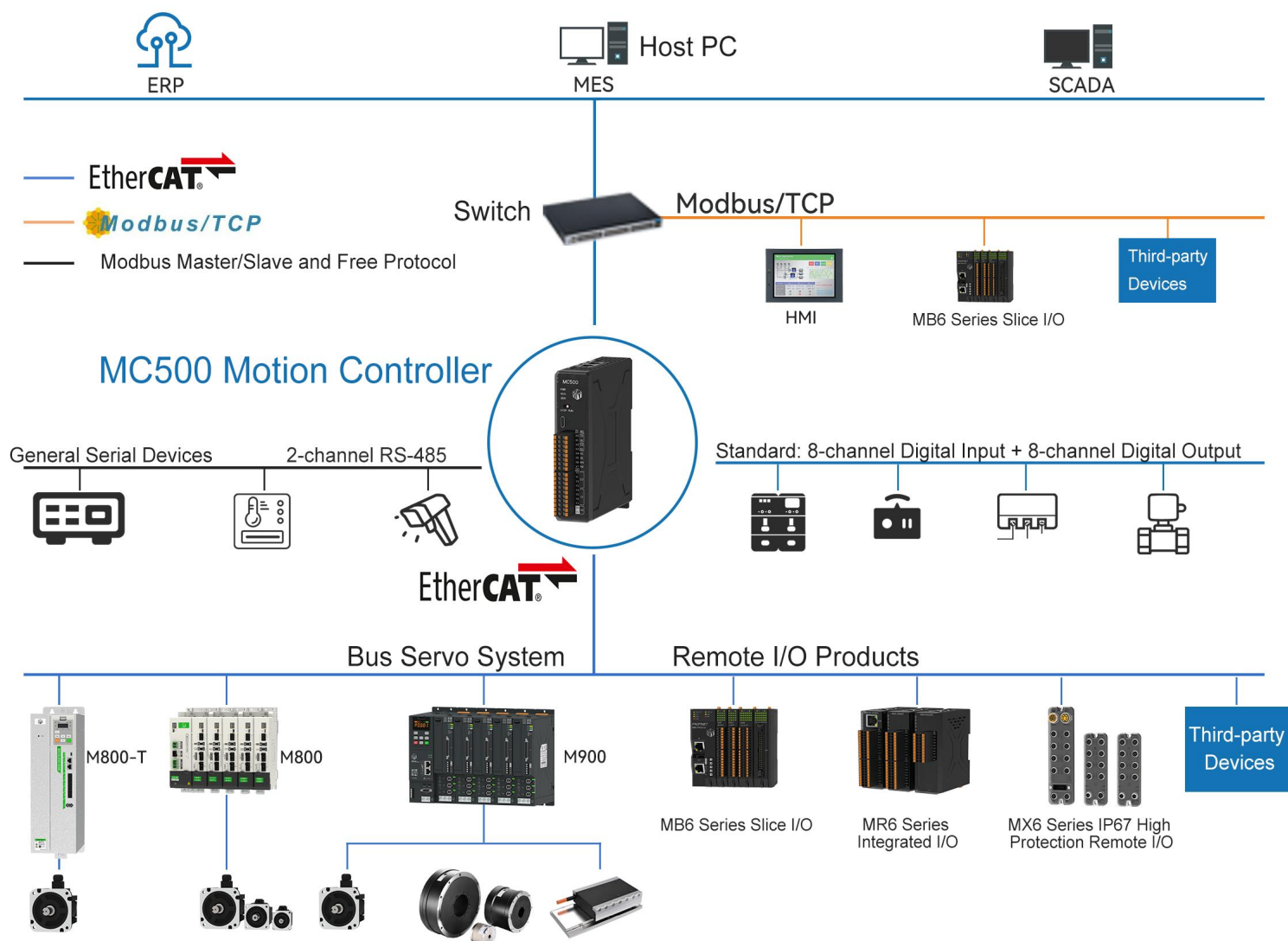


Front View (PNP Type)

Technical Specifications

Item		Specification
Programming Languages		IEC 61131-3 compliant languages (LD, FBD, IL, ST, SFC, CFC)
Program Execution		Compiled execution
User Program Memory		16 MB
User Data Memory		20 MB
Retentive Memory (Power-off Hold)		512 KB
SD Card Support		Max. 32 GB; supports data logging and user program download
Motion Control Axes		8 axes, 16 axes, 32 axes
Onboard I/O		8 high-speed digital inputs, 8 digital outputs
Communication Interfaces	1 × EtherCAT	Protocol: COE; Max. axes: 32; Max. slaves: 192
	1 × Ethernet	Protocol: TCP/IP, Modbus TCP (Master/Slave)
	2 × RS485	Protocol: Modbus RTU (Master/Slave), Free Protocol
	1 × USB	Micro-USB Type-C; supports program download and PLC debugging
General Parameters	Power Consumption	200 mA @ 24 VDC
	Isolation Voltage	I/O to internal circuit: 3 kV optical isolation
	Power Supply	24 VDC (allowable range: 20.4–28.8 VDC)
	Wiring	I/O wiring: 0.3 mm ² (22 AWG) ~ 1 mm ² (17 AWG) Recommended wire size: 0.3–1 mm ² ; crimp length: 10 mm
	Mounting	35 mm DIN rail mount
	Dimensions	120 mm × 110 mm × 30 mm
	Weight	240 g
Environmental Specifications	Operating Temperature	-20 ~ 50 °C
	Storage Temperature	-25 ~ 65 °C
	Relative Humidity	5% ~ 95% (non-condensing)
	Protection Class	IP20
	Altitude	≤ 2000 m

System Topology



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MT-Drive Official Website

Products and contents described in this document are under continuous development and improvement. We reserve the right to modify the contents without prior notice.

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