

## MC5000 Series Medium Programmable Logic Controller



**MEGMEET**

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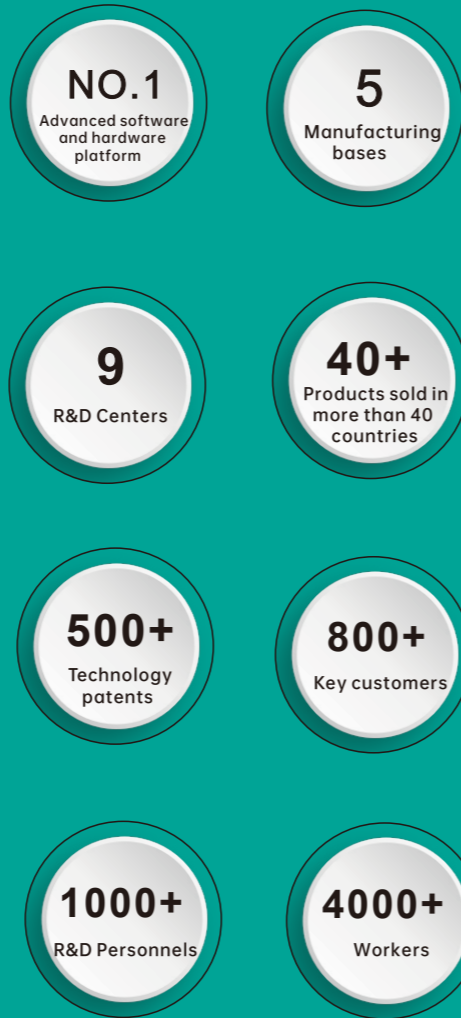
# MEGMEET's Qualities Are Shared All over the World

## The World Benefits from MEGMEET

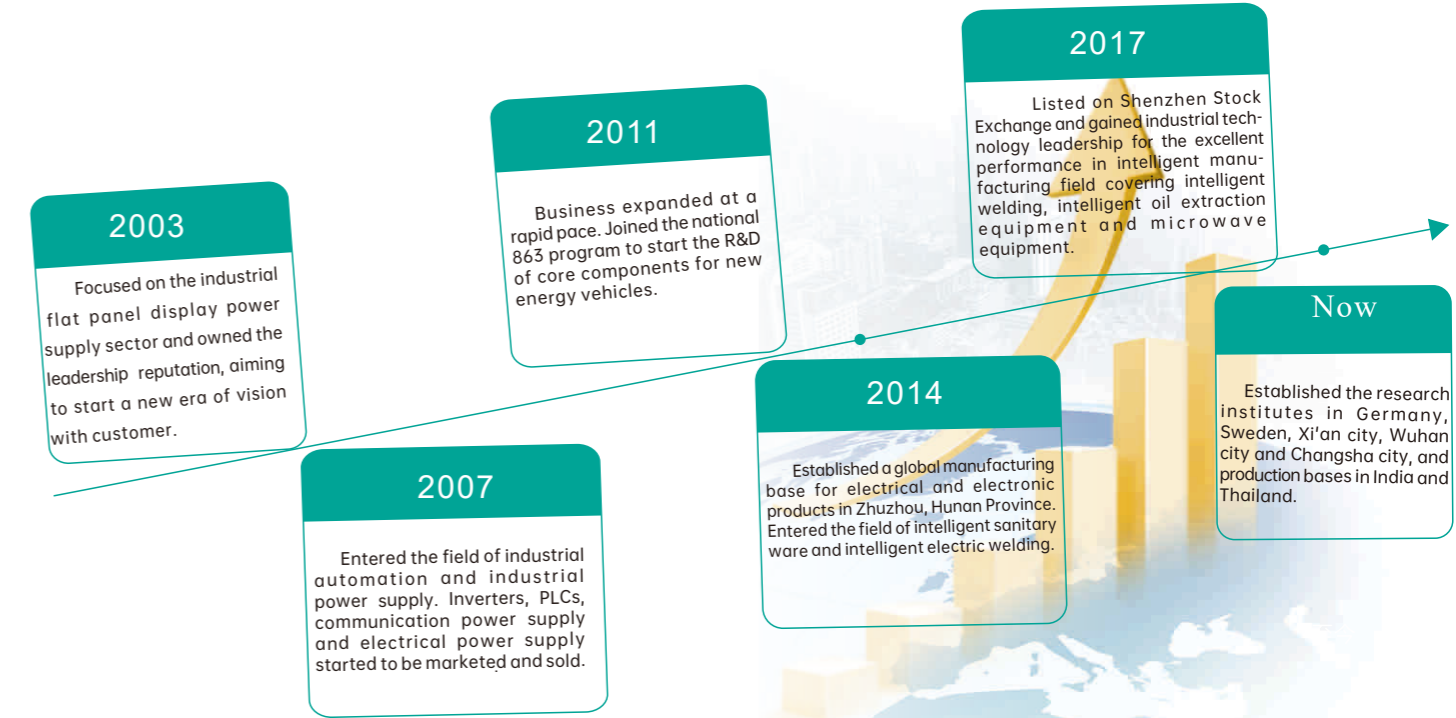
Megmeet (Stock Code:002851), founded in 2003 with a registered capital of 313 million yuan, is one of the first national-level high-tech enterprises centered on power electronics and industrial control technology. With the vision of becoming a world-class solution provider in the field of electrical control and energy conservation, our company aspires to be Megmeet Everywhere.

Company's business includes smart home appliances, industrial automation, rail transit, new energy vehicles, clean energy and other fields. Our products are widely used in engineering machinery, 3C electronics, machine tools, plastics, non-standard equipment, rail transportation, medical, communications, IT, electric power, photovoltaic, oilfields, police equipment, industrial welding machine, industrial microwave, inverter air conditioner, frequency microwave, flat panel display, outdoor color screen, intelligent sanitary ware and other industries. There are good markets for these products in Europe, America, India, Brazil, South Korea, Japan and other more than 40 countries, and own trust from over 800 customers.

Since its establishment, our company has made rapid development with the pragmatic and innovative vision, relying on talents and technological advantages which embodies more than 1000 R&D engineers and 500 technology patents. Now, we establish a industry-leading software and hardware platform for product R&D, testing and manufacturing.



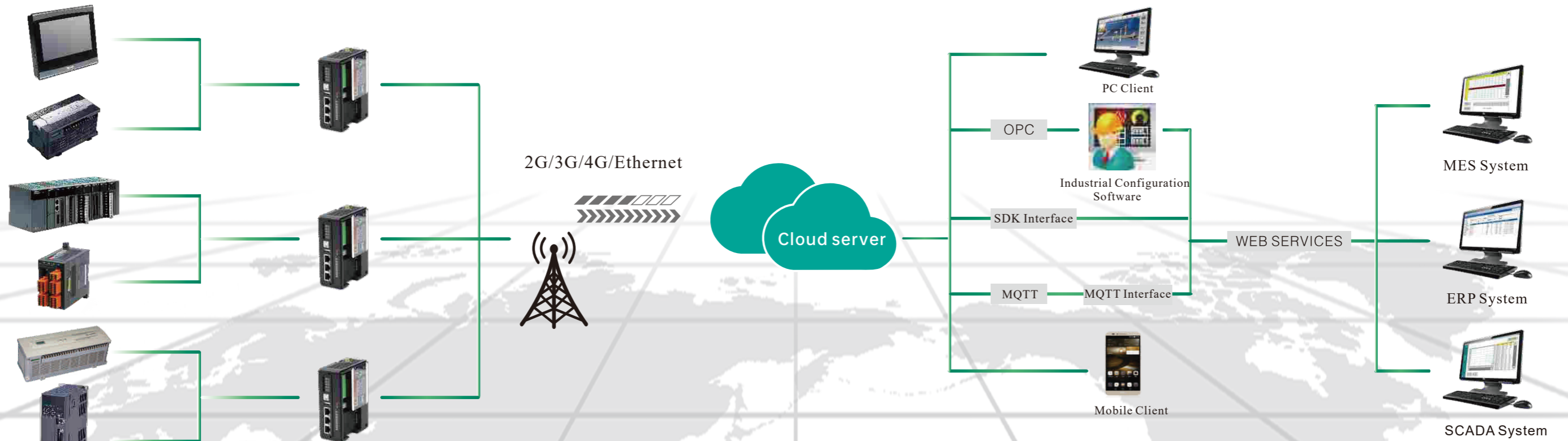
## Development Course



## Agency of Company



## Industrial IOT Solutions



### Equipment Acquisition Layer

Mink connects to the field PLC, instrument, inverter and other equipments, then transmits the equipment data to the Megmeet cloud platform through internet access modes, such as broadband, 4G, 3G, 2G, etc.

### Megmeet Cloud Platform

Megmeet Cloud platform is a bridge between the site equipment and the user client, which connects to the field Mlink to achieve connection management, data acquisition, store-and-forward of a large number of remote devices.

### Data Center

Data center is used for data display, monitoring and data analysis. Users can adopt the Megmeet standard software or develop monitoring platform to achieve remote monitoring, equipment management, data analysis and other functions.

### Management System

MES system can collect and feedback the production process information accurately to track the production process management. ERP system provides a management platform for enterprises to make decisions. SCADA is a production process control and scheduling automation system.

### MServer

MServer is used to remotely connect lots of on-site Mlinks to achieve connection management, data acquisition, store-and-forward of a large number of remote devices.

### Private Cloud

### Cloud Configuration

The remote cloud platform, developed by Megmeet for the development of industrial IOT, is a Web configuration that meets the needs of equipment manufacturers for remote operation and maintenance management of equipment.

### APP/Mobile Cloud

Adapting to Android system; Displaying the interface about engineer's monitoring by mobile phone, control device map, device screen; Managing WeChat public account and pushing alarm signal.

## Function Features of MC5000 Series PLC

### C Language

- C language
- User can customize instructions
- Structured programming
- PLCOPEN instruction

```

int _mc_fun( unsigned short a, unsigned short b, unsigned short c )
//Add your code here...
c = a+b;
return PIR_XYZ_OK;
    
```

### Motion Control

- 6-axis table output
- Executing single-axis, interpolation and other operations in accordance with the table

轴	轴名	轴位数	轴速度	轴加/减速度	轴位置
1	A轴1	12.3	120.000	1.000	1000.000
1	A轴2	12.3	20.000	0.000	1000.000
1	A轴3	12.3	30.000	0.000	1000.000
1	A轴4	12.3	40.000	0.000	1000.000
1	A轴5	12.3	50.000	0.000	1000.000
1	A轴6	12.3	60.000	0.000	1000.000
2	A轴1	1.3	120.000	1.000	1000.000
2	A轴2	1.3	20.000	0.000	1000.000
2	A轴3	1.3	30.000	0.000	1000.000
2	A轴4	1.3	40.000	0.000	1000.000
2	A轴5	1.3	50.000	0.000	1000.000
2	A轴6	1.3	60.000	0.000	1000.000

### EtherCAT

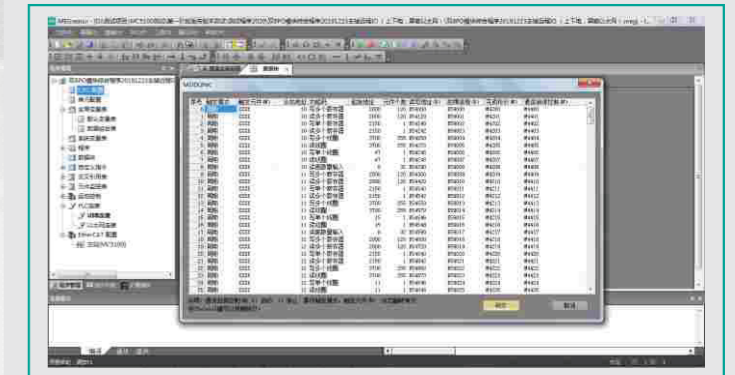
### Expansion Configuration

- Expansion module configuration
- Rich expansion modules (IO/AD/DA/TC/PO.....)



### Convenient Communication

- Modbus(RTU/TCP) communication can use the method of table configuration to access the slave station and simplify the programming work.



MC5000 Series PLC



M6 Series Servo



MC5000S-ET Expansion Rack



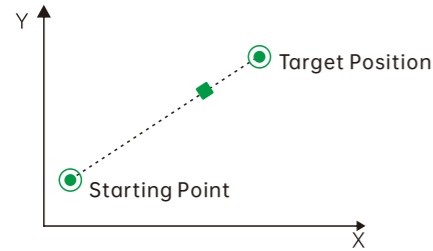
M6 Series Servo

### EtherCAT

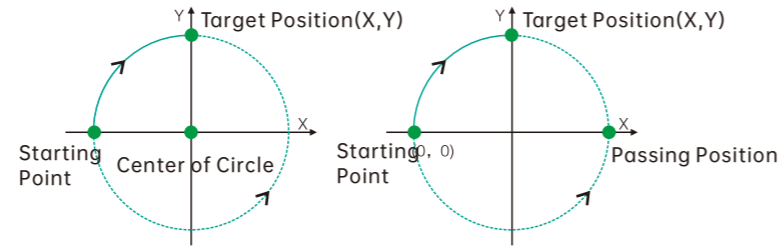
## Powerful Motion Control Function

Supported Function: 64 axis bus control, 6 axis differential pulse, linear interpolation, circular interpolation, electronic gear and electronic CAM.

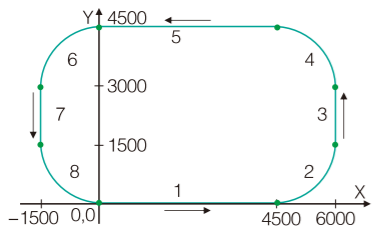
### Linear Interpolation(LIN)



### Circular Interpolation(CW/CCW)



### Combination of LIN and CW/CCW

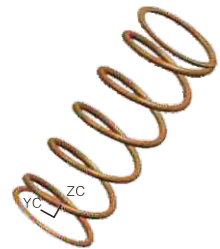


### Speed of Interpolation

The speed of interpolation motions in any two axis can be up to 200KHz.

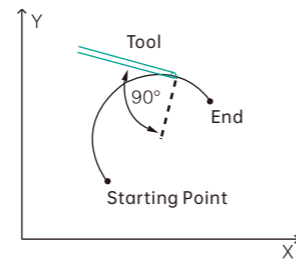
### Three-dimensional Helical Interpolation

Achieving three-dimensional helical interpolation operation



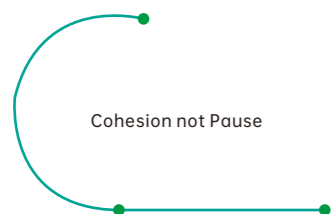
### Normal and Tangent Interpolation

The direction of the tool is kept perpendicular to the trajectory during the control of circular interpolation.



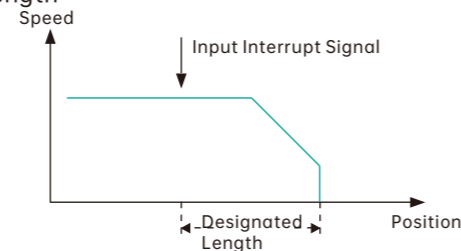
### Continuous Interpolation

The speed can be kept during the switch of interpolation in multistage continuous interpolation.



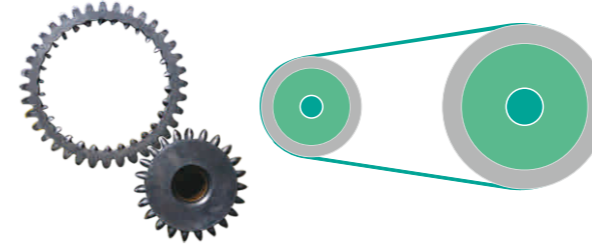
### Interrupt Set Length

Detecting the specified input and then running according to the set length



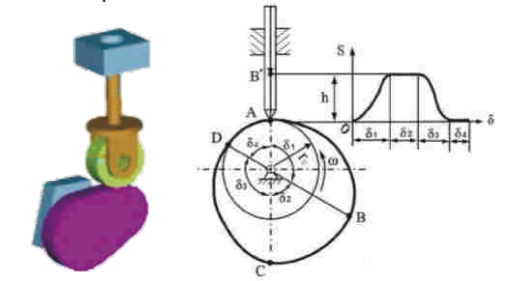
### Advanced Electronic Gear Algorithm(GEARBOX)

Controlling the slave axis to move along with the master axis at a certain electronic gear ratio.



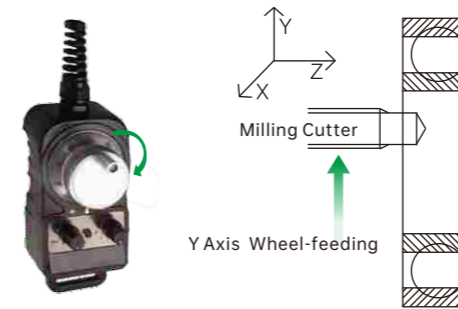
### Electronic CAM Function

Holding four groups of 2048 CAM data curve, the slave axis moves along with the master axis and keeps pace with the speed of the master axis.



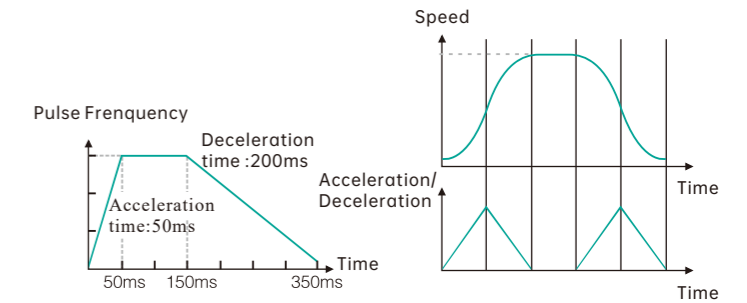
### Hand Wheel

Being suitable for occasions where manual positioning is required, and the variable pulse output can be set to achieve the manual accurate positioning during parts processing.



### Asymmetric Trapezoidal Acceleration/Deceleration and S-curve Acceleration/Deceleration

Supporting for the asymmetric trapezoidal acceleration/deceleration and S-curve acceleration/deceleration function.



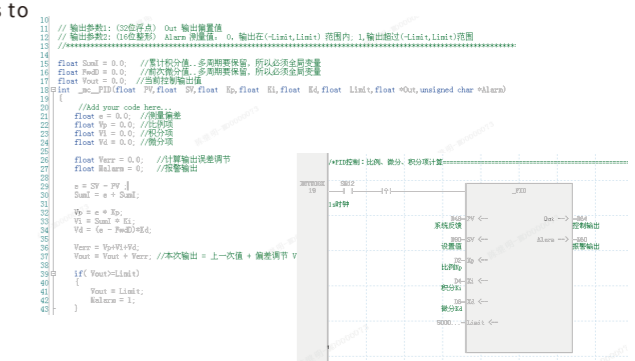
### Supporting CAD diagram import and Simple G code function

- Supporting 16 instructions, include single axis positioning, linear interpolation, circular interpolation, jump, cycle, etc.
- Maximum control of 8 axis whose parameters and motion parameters can be configured.
- Supporting up to 4 independent processing tables
- Supporting teaching, manual input, importing CAD graphics to generate the processing program
- Interacting data with PLC conveniently and efficiently



### C language

- Standard C language, supports standard language library function
- Users can customize instructions to implement the core algorithm of device
- User-defined instructions can be encapsulated, encrypted, import and export



# MC5000 Series Medium Programmable Logic Controller

MC5000 is a perfect combination of motion control and medium PLC controller, supporting EtherCAT multi-axis bus control, motion controls including interpolation, CAM, G code, and supporting C language programming and other powerful functions. MC5000 is suitable for the industries of lithium battery, 3C electronics, photovoltaic, municipal, textile, printing and packaging, HVAC, non-standard equipment, etc.



## Features:

- Powerful Motion Control:** Motion control is handled by a separate CPU  
Based on EtherCAT bus control: control cycle 250us, up to 64 axis control  
Based on pulse output: 2M differential pulse, 100K collector plate, 8PO expansion, up to 38 axis pulse control
- Operation Speed:** adopting the multi-core processing method to perform communication control, operation and logic, motion control , and the 100K-step standard procedure executes no more than 2.2ms
- C Language:** supporting standard C programming, 2400dmips
- Rich interface:** Ethernet, RS485, USB, SD card
- Large Capacity:** program capacity 320K steps, C language 2M Byte, data capacity 2M Byte

## Naming Rules for Product Modules

<b>MC5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>E</b>	<b>A</b>	<b>16</b>
MC 5000 Series Medium PLC	Series Classification	Terminal Type	Bus Type	Function definition	Number of bus axis control	
	0:Bus motion controller	0:cluster terminal	E:EtherCAT	A:6 axis differential 2M pulse output	8: 8 axis	
	1:Pulse motion controller	1: Euroblock	M:MECHATROLINK-III	B:4 axis collector 200K pulse output	16: 16 axis	
	2:Universal controller		C:CANopen	None:no pulse output	32: 32 axis	
			P:Profibus		64: 64 axis	
					None : 0 axis	

\* Developing

## Specification of Main Module

Item	Model	MC5200E	MC5101EB	MC5100EA	MC5000EA64	MC5000E64	MC5001EB64
		Universal Controller	Pulse Motion Controller		Bus Motion Controller		
Number of Local Expansion Module		16 (Maximum 1024 points)					
Program Capacity	Ladder Diagram	320K Step					
	User C Language	2M byte					
Data Capacity		2M Byte					
Speed of Instruction Execution	Ladder Diagram	2ms/100K Step					
	C Language	2400 dMIPS					
Speed of Bus Refresh		16 IO Module 0.1ms (No scan time)					
Pulse Output		–	4 axis (collector)	6 axis(difference)	–	–	4 axis (collector)
High-speed Output		–	2 groups AB phase input	1 group 5V difference + 2 groups AB phase input	–	–	2 groups AB phase input
General IO (transistor)		16 input, 16 output	4 input, 4 output	4 input, 4 output	16 input, 16 output	–	4 input, 4 output
Number of Positioning Module		4 MC5000-8PO expansion module					
EtherCAT	Number of Motion Axis	–			64(Maximum)		
	Number of Bus Expansion Rack	8 groups MC5000S-ET					
	Min. Synchronization Time	250us					
Communication	Ethernet (Socket)	7 (ModbusTCP master/slave, free protocol)					
	RS485	2 channels (Modbus master/slave, MCbus, free protocol)					
C Language	Standard C Language	Supporting standard C language					
	Operation Mode	C language operates programming mixed with ladder diagram/ Independent programming					
	Function Library	Providing rich standard function library					
	User-defined Library	Supporting to encapsulate function blocks with C language (import, export, encryption)					
Motion Control	CAM and Interpolation	–	3 groups CAM/1 group multi-axis interpolation	Yes			
	Table Output	–	10000 steps × 2 groups				
	CAD File Import	–	Yes				
Hardware Resources	SD Card	Yes					
	USB Download	Yes					

## Series Modules

Model	Module Description	Specification
CPU Module		
	IO of Main Module	Number of bus control axis
MC5200E	Input: 16 channels Output: 16 channels transistor	–
MC5100EA	Input:4 channels 200K pulse, 3 channels 1M differential pulse Output:4 channels transistor, 6 groups 2M differential pulse	–
MC5101EB	Input:8 channels (support 4 channels 200K pulse) Output:8 channels transistor (support 4 channels 200K pulse)	–
MC5000E8	Input: 16 channels Output: 16 channels transistor	8 axis EtherCAT
MC5000E16	Input: 16 channels Output: 16 channels transistor	16 axis EtherCAT
MC5000E32	Input: 16 channels Output: 16 channels transistor	32 axis EtherCAT
MC5000E64	Input: 16 channels Output: 16 channels transistor	64 axis EtherCAT
MC5001EB8	Input:8 channels (support 4 channels 200K pulse) Output:8 channels transistor (support 4 channels 200K pulse)	8 axis EtherCAT
MC5001EB16	Input:8 channels (support 4 channels 200K pulse) Output:8 channels transistor (support 4 channels 200K pulse)	16 axis EtherCAT
MC5001EB32	Input:8 channels (support 4 channels 200K pulse) Output:8 channels transistor (support 4 channels 200K pulse)	32 axis EtherCAT
MC5001EB64	Input:8 channels (support 4 channels 200K pulse) Output:8 channels transistor (support 4 channels 200K pulse)	64 axis EtherCAT
MC5000EA8	Input:4 channels 200K pulse, 3 channels 1M differential pulse Output:4 channels transistor, 6 groups 2M differential pulse	8 axis EtherCAT
MC5000EA16	Input:4 channels 200K pulse, 3 channels 1M differential pulse Output:4 channels transistor, 6 groups 2M differential pulse	16 axis EtherCAT
MC5000EA32	Input:4 channels 200K pulse, 3 channels 1M differential pulse Output:4 channels transistor, 6 groups 2M differential pulse	32 axis EtherCAT
MC5000EA64	Input:4 channels 200K pulse, 3 channels 1M differential pulse Output:4 channels transistor, 6 groups 2M differential pulse	64 axis EtherCAT
Power Module		
MP50AC220	Input: 100~240Vac, Output: 24V/2A	AC power module
IO Expansion Module		
MC5000-3232ETN	32-point 24DVC input/ 32-point transistor output	Cluster terminal
MC5000-1616ETN	16-point 24DVC input/ 16-point transistor output	Cluster terminal
MC5000-3200ENN	32-point 24DVC input	Cluster terminal
MC5000-0032ETN	32-point transistor output	Cluster terminal
MC5000-6400ENN	64-point 24DVC input	Cluster terminal
MC5000-0064ETN	64-point transistor output	Plug and pull screw terminal
MC5000-1600ENN-T	16-point 24DVC input	Plug and pull screw terminal
MC5000-0016ERN-T	16-point relay output	Plug and pull screw terminal
MC5000-0016ETN-T	16-point transistor output	Euroblock
MC5000-3200ENN-P	32-point IO input	Euroblock
MC5000-0032ETN-P	32-point IO output	Euroblock
MC5000-1616ETN-P	16-point 24DVC input/16-point transistor output (with 4 channels high-speed counter)	Euroblock
MC5000-1600ENN-P	16-point IO input	Euroblock
MC5000-0016ETN-P	16-point IO output	Euroblock
MC5000-0016ERN-P	16-point relay output	Euroblock
Analog Quantity Module		
MC5000-8AD	8-channel analog quantity input module	Plug and pull screw terminal
MC5000-4AD	4-channel analog quantity input module	Plug and pull screw terminal
MC5000-4DA	4-channel analog quantity output module	Plug and pull screw terminal
MC5000-4PT	4-channel thermal resistance temperature module	Plug and pull screw terminal
MC5000-8TC	8-channel thermocouple temperature module	Plug and pull screw terminal
MC5000-4TC	4-channel thermocouple temperature module	Plug and pull screw terminal
Motion Control Module		
MC5000-8HC*	8-channel high speed count module	Cluster terminal
MC5000-4HC*	4-channel high speed count module	Cluster terminal
MC5000-8PO	8-axis 200KHZ pulse output module (1 main module can configure up to 4)	Cluster terminal
MC5000-2WT*	2-channel weighing module	Plug and pull screw terminal
Accessory		
MC5000S-ET	EtherCAT expansion rack	EtherCAT slave station
Accessory		
MCA05-100L	1m terminal line	Tieline
MCA05-150L	1.5m terminal line	Tieline
MCA10-40P	40PIN terminal	Wiring terminal

\* Developing

## MC 5000 Series High-performance Medium Programming Controller

### Power Supply Specification

Power Module	Technical Specification
Model	MP50AC220
Dimensions(H×L×W)	100 × 100 × 45 ( mm )
Range of Power Supply	110V~240V
Input Current	0.7A
Power Frequency	50/60Hz

Item	Technical Specification
Dimensions(H×L×W)	100×100×63(mm)
Number of expansion module	16 expansion modules
Speed of Expansion Refresh	7us/IO module
Capacity of Ladder Diagram	320K step
Running Speed	2ms/100K step
Number of Max. Expansion Point	One main module can expand 1024 points/ remote IO 8192 points
SD Card	Yes
USB Download	Yes
Ethernet Download	Yes
RS485	2 channels
Ethernet	7 sockets
Differential Output	Supporting 6 axis differential output
	Pulse+direction, forward/reverse pulse, AB phase
	Differential voltage level 5V
	Differential maximum output frequency 2MHz

### PT Module Specification

Item	Technical Specification
Model	MC5000-4PT
Dimensions(H×L×W)	100 × 100 × 34 ( mm )
Number of Channel	4 channels
Input Type	Thermal resistance signal: Pt100, Cu100, Cu50
Rated Temperature Range	Pt100    - 150°C ~ 600°C    - 238° F ~ 1112° F
	Cu100    - 30°C ~ 120°C    - 22° F ~ 248° F
	Cu50    - 30°C ~ 120°C    - 22° F ~ 248° F
Number of AD Bit	16bit
Conversion Speed	4ms × 4 channels (Unused channels are not converted)
Resolution	Pt100    0.1°C    0.18° F
	Cu100    0.1°C    0.18° F
	Cu50    0.1°C    0.18° F
Precision	Full range: ±2%
Isolation	The analog circuit and digital circuit are separated by the photoelectric coupler.

### PO Positioning Module Specification

Item	Technical Specification	
Model	MC5000-8PO	
Dimensions(H×L×W)	100 × 100 × 34 ( mm )	
High-speed Input	2 groups encoder (ABZ)	
High-speed Output	Control 8 axis	
Connection Mode of Input and Output	40 PIN cluster connector	
<b>Input Channel Specification</b>		
Input Mode	24V single terminal, 5V difference	
Single Terminal Input	Input Voltage Level	24VDC (-15%~+20%)
	Input Current	5mA (type)
	ON Voltage	>15VDC
	OFF Voltage	<5VDC
	Filter Time of Port	1ms~64ms(default: 8ms, can be adjusted by programming software)
	Input Impedance	3.3K Ω
Differential Input Signal	RS422 differential linear drive level based on EIA standard	
Signal Frequency	200kHz (single-channel input)	
Common Port Mode	Single-point independent common port	
Isolation Mode	Optical coupling isolation	
Input Action Display	LED display	
<b>Output Channel Specification</b>		
Mode of Output Control	Pulse+direction, forward/reverse pulse, AB phase	
Output Form	Open-collector	
Signal Frequency	200KHz	
Control-circuit Voltage	DC5V-24V	

### TC Module Specification

Item	Technical Specification
Model	MC5000-8TC    MC5000-4TC
Dimensions(H×L×W)	100 × 100 × 34 ( mm )
Number of Channel	8 channels    4 channels
Input Type	J type, K type, R type, S type, T type, E type, N type, B type thermocouple
Precision	± 0.2% ( 25°C )
	± 0.4% ( 0~50°C )
Number of AD Bit	24bit
Conversion Speed	100ms/8 channels
Cold-junction Compensation	Internal cold-junction compensation (±0.2 °C)
	External cold-junction compensation (±0.1 °C)
Resolution	0.1°C
Isolation	Channel to channel isolation
	The analog circuit and digital circuit are separated by the photoelectric coupler.

### AD Module Specification

Item	Technical Specification	
Model	MC5000-4AD    MC5000-8AD	
Dimensions(H×L×W)	100 × 100 × 34 ( mm )	
Number of Channel	4 channels    8 channels	
Range of Analog Quantity Input	Voltage: -10~+10V(default), 0~10V, -5~+5V, 0~5V, 1~5V Current: 0~20mA, 4~20mA	
Number of AD Bit	16bit	
Conversion Speed	8ms/8 channels	
Number of Channel Average Value	1~1000	
Max. measurement range	±3% of the full range	
Conversion precision	Voltage	± 0.2% ( 25°C ) , ± 0.4% ( 0 ~ 55°C )
	Current	± 0.2% ( 25°C ) , ± 0.4% ( 0 ~ 55°C )
Input Impedance	Voltage	>250K Ω
	Current	250 Ω
Isolation	The analog circuit and digital circuit are separated by the photoelectric coupler.	

### DA Module Specification

Item	Technical Specification	
Model	MC5000-4DA	
Dimensions(H×L×W)	100 × 100 × 34 ( mm )	
Number of Channel	4 channels	
Range of Analog Quantity Input	Voltage: -10~+10V(default), 0~10V, -5~+5V, 0~5V, 1~5V Current: 0~20mA, 4~20mA	
Number of DA Bit	16bit	
Conversion Speed	8ms/ 8 channels	
Conversion precision	Voltage	± 0.2% ( 25°C ) , ± 0.4% ( 0 ~ 55°C )
	Current	± 0.2% ( 25°C ) , ± 0.4% ( 0 ~ 55°C )
Min. load ( voltage)	1k Ω	
Max. load( current)	500 Ω	
Isolation	The analog circuit and digital circuit are separated by the photoelectric coupler.	

### IO Module Specification (Screw Terminal& Cluster Terminal)

Model	3200ENN	0032ETN	1616ETN	3232ETN	6400ENN	0064ETN	1600ENN-T	0016ETN-T	0016ERN-T
Dimensions(H×L×W)	100 × 100 × 34 (mm)								
Number of Input Point	32	0	16	32	64	0	16	0	0
Number of Output Point	0	32	16	32	0	64	0	16	16
Wiring Terminal	1 group 40PIN terminal			2 groups 40PIN terminal			Plug and pull screw terminal		
Type of Input Port	Source type / leakage type(SS common port)								
Voltage of Input Port	>18V ON/<4V OFF								
Impedance of Input Port	3.3k Ω								
Input Filter	1/2/4/8/16/32/64 ms (can be set by software)								
Output Mode	-	Transistor	Transistor	Transistor	-	Transistor	-	Transistor	Relay
Output Circuit-control Voltage	-	24Vdc			-	24Vdc	-	24Vdc	24Vdc/220Vac
Output Circuit-control Current	-	0.3A			-	0.3A	-	0.3A	2A

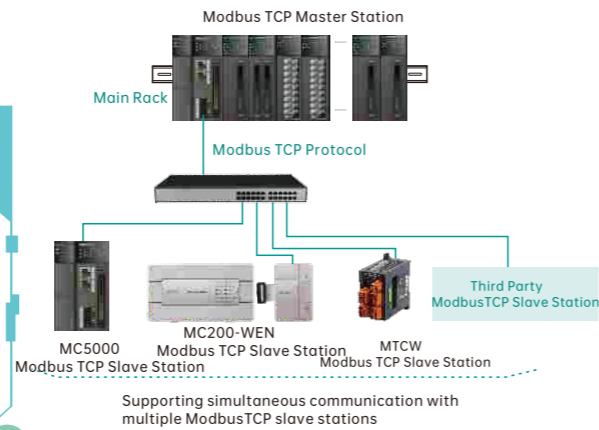
### IO Module Specification ( Euroblock )

Model	3200ENN-P	0032ETN-P	1616ETN-P	1600ENN-P	0016ETN-P	0016ERN-P	
Dimensions(H×L×W)	100 × 100 × 34 (mm)						
Number of Input Point	32	0	16	16	16	0	
Number of Output Point	0	32	16	0	0	16	
Wiring Terminal	Euroblock						
Type of Input Port	Source type / leakage type(SS common port)						
Voltage of Input Port	>18V ON/<4V OFF						
Impedance of Input Port	3.3k Ω						
Input Filter	1/2/4/8/16/32/64 ms (can be set by software)						
Output Mode	-	Transistor	Transistor	-	Transistor	Relay	
Output Circuit-control Voltage	-	24Vdc			-	24Vdc	24Vdc/220Vac
Output Circuit-control Current	-	0.3A			-	0.3A	2A

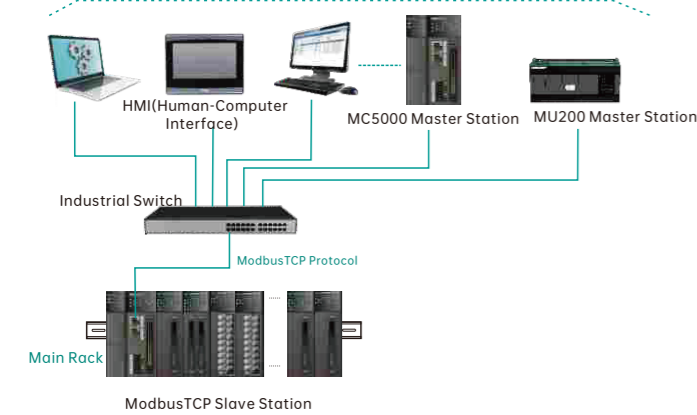
# One-stop Solution

## Ethernet Network Port (Modbus TCP)

- The Ethernet port of MC5000 CPU module supports ModbusTCP master/slave station protocol.
- As the ModbusTCP slave station, it can link with multi-master station.
- As the ModbusTCP master station, it can establish linkage with multi-slave station.

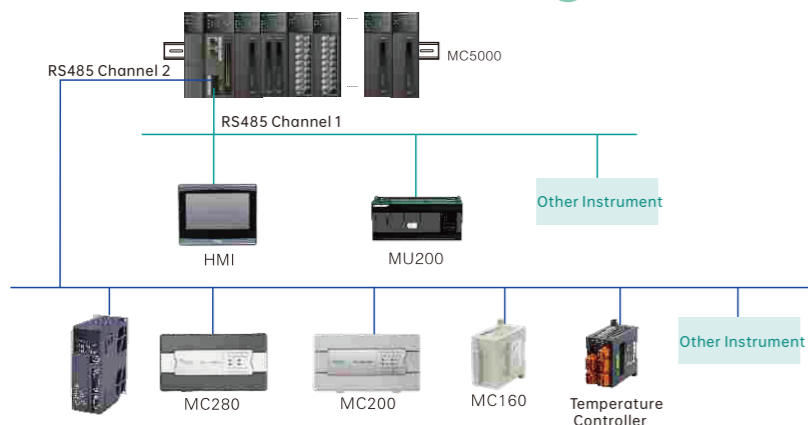


Allowing multiple ModbusTCP master stations to access slave stations simultaneously



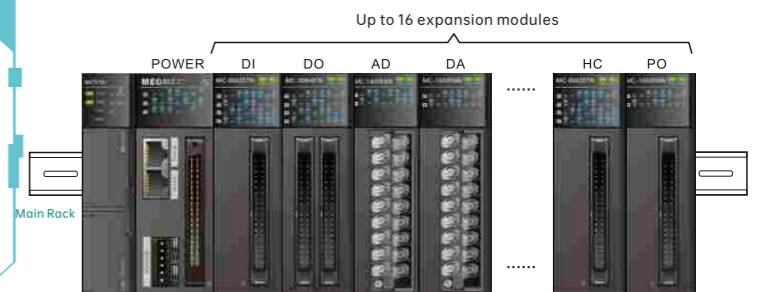
## RS485 serial communication Port

- MC5000 CPU module provides 2-channel independent RS485 serial communication port.
- Each RS485 provides the protocol of Modbus master/slave station, MCBUS and free-port, which is selected by customer's programming to achieve data interaction.
- As the Modbus master station protocol, it can establish communication with 31 slave stations to carry out data interaction.



## Bus of Main module

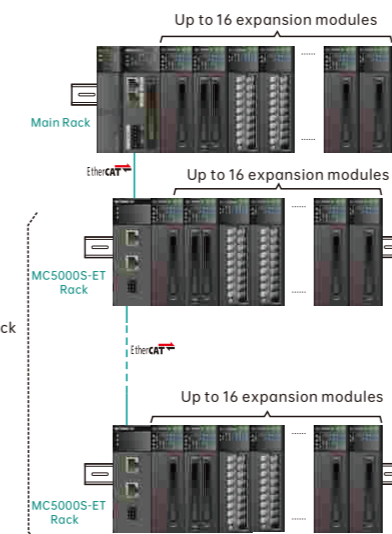
- The host bus can access up to 16 digital IO modules and 1024 points with a refresh delay of less than 0.1ms.
- The host bus can access up to 16 analog quantity modules and 128 channels with a refresh delay of less than 1ms.
- The host bus can access up to 8 analog quantity modules and 8 digital IO modules with a refresh delay of less than 1ms.
- The access speed of host bus accommodate to the amount of module automatically, which means the fewer the number of module, the faster of the access speed.



## Bus Expansion Rack

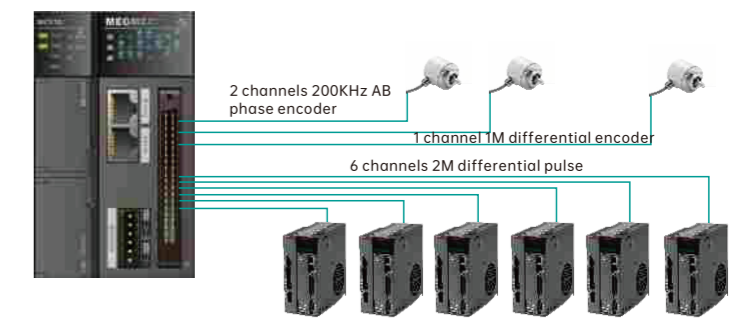
- MC5000 can access up to 8 groups racks of MC5000S-ET, and each rack can access 16 expansion modules.
- The maximum length of bus cable can be 100m.

8 groups MC5000S-ET Rack



## CPU Owns Built-in High-speed IO Function

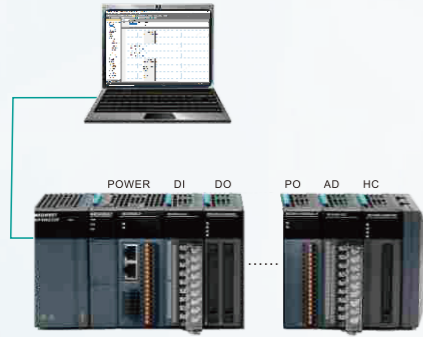
- MC5000 CPU provides 4 channels high-speed pulse input, 4 channels high-speed pulse output, and supports 4-axis pulse motion control.
- MC5000 CPU module provides 6 groups 2M differential pulse output, 3 channels 1M pulse input; MC5101EB supports 4 channels collector 200K pulse output.
- 4 channels high-speed interrupt function
- Supporting pulse frequency measurement





### Convenient and Easy-for-use USB Port

- The PLC can complete the operation conveniently and easily of programming, downloading, debugging and monitoring through USB port.

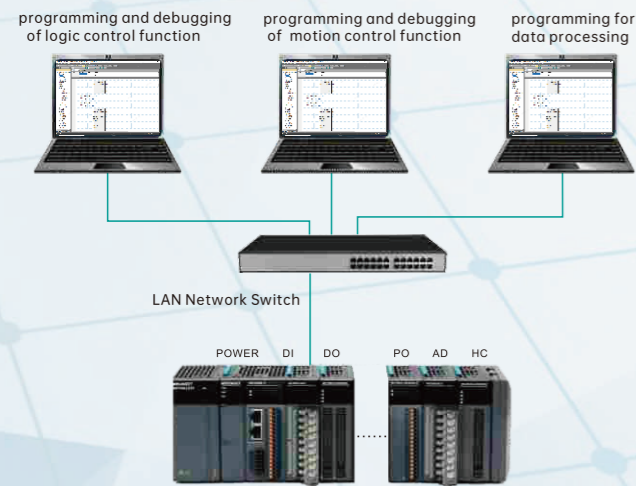


### Providing Online Debugging and Online Modification Function

- Supporting to set breakpoint individually and single-step running program to reduce time for positioning BUG.\*
- Supporting online modification and non-stop debugging function.

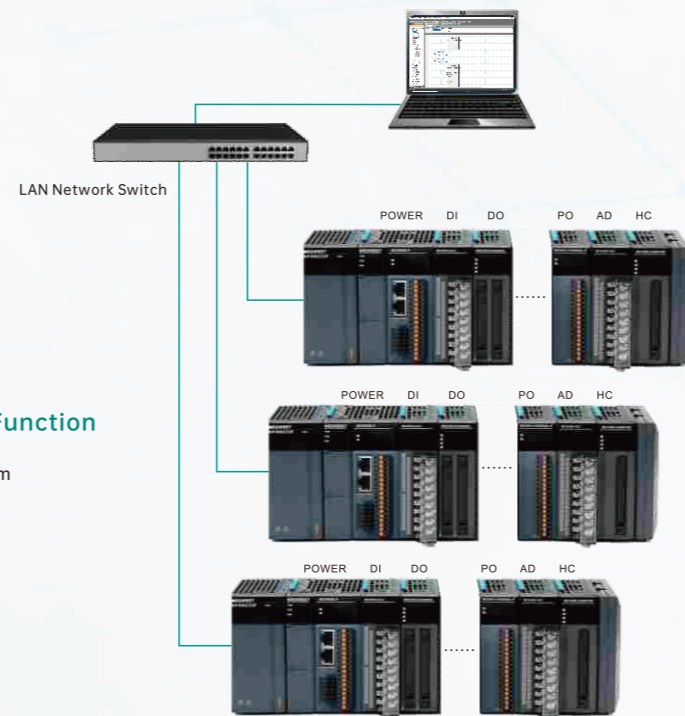
### Supporting Multi-person Cooperation to Compile the Program of Complicated Application System

- Supporting multi-person programming efficiently and rapidly.
- Supporting import and export operations.



### Easy-using and Efficient Background Programming Software

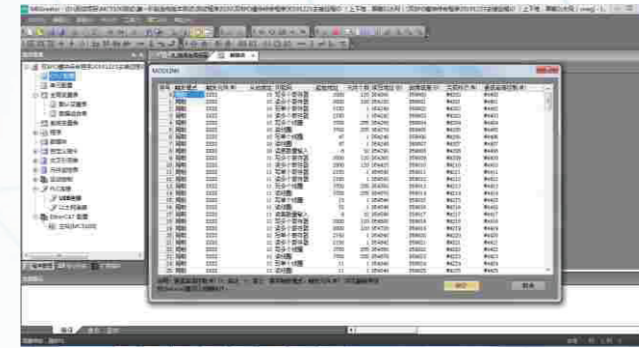
- Connecting MC5000 controller through the network to coordinate multi-machine systems handily.



### The program and data are both stored on Flash, which needs not to maintain because of battery-free!

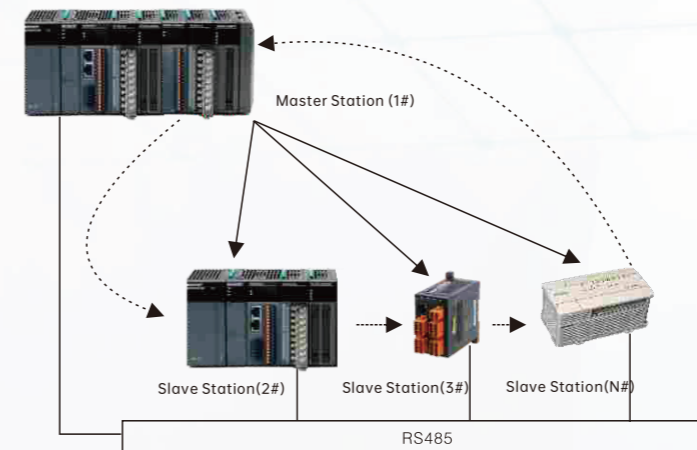
### Communication Simplification (ModbusTCP/Modbus)

- Modbus(RTU/TCP) communication can adopt the method of table configuration to access slave station and simplify programming work.



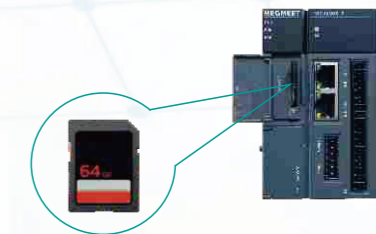
### MCBUS Protocol

- The MCBUS builds the loop-token network structure through RS485 and shares data among multiple N:N nodes, where the data of each node is automatically refreshed in real time after finishing configuration.



### Importing the user program through SD card

- Importing the user program through SD card can facilitate the device maintenance.



### Rich Accessory

- The IO terminals of module are divided into three types: cluster terminal, plug and pull screw terminal, and Euroblock. The user can select appropriate terminal modules according to the industrial site to meet the installation requirements.



Euroblock module Plug and pull screw terminal module Cluster terminal module



Line Cluster and Terminal Block

\*: Developing

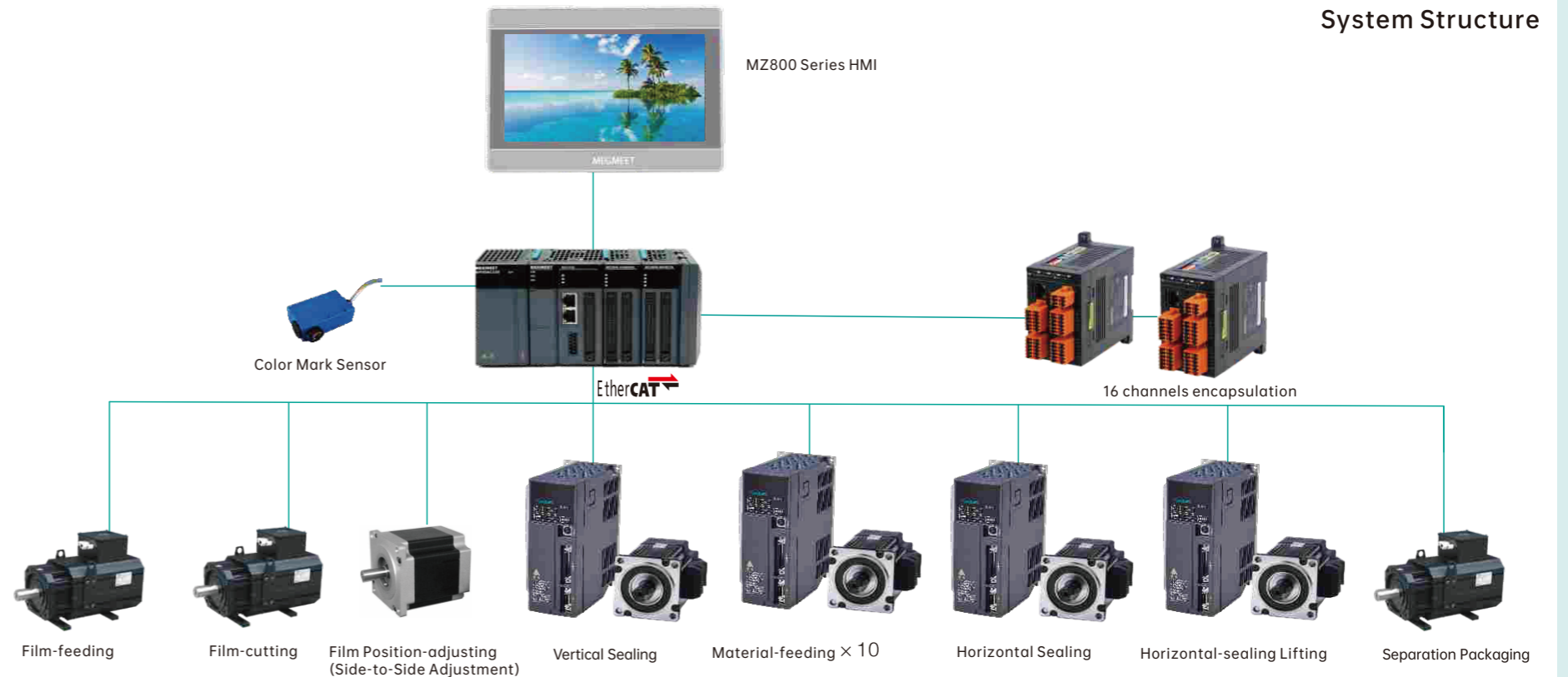
## Application Case

### Application of MC5100EA in Packaging Machine

The process of packaging machine is composed of five parts: film-feeding, film-cutting, vertical sealing and material-filling, horizontal sealing and independent packaging-dividing. It can carry out 10 rows of packaging operations at the same time and each independent packaging contains two steps of horizontal sealing and vertical sealing.

The control program needs to adopt the electronic CAM motion control algorithm, taking the horizontal sealing lifting as the main axis, the vertical sealing as the slave axis, and keeping the synchronous signal between the horizontal sealing and the vertical sealing to start. The electronic CAM function of MC5100EA can readily complete the synchronous connection among the horizontal seal lifting, vertical sealing and material feeding action, which greatly improves the packaging efficiency.

The control main points of this packaging machine also include film cutting, film deflection-correcting, color mark signal acquisition, temperature control of film packaging, etc. MC5100EA can completely satisfy the needs of complex logic control with its fast response and motion control function.



### Application of MC5000EB64 in Wire Drawing Machine

This is a plastic roller-type wire drawing machine, and its process requirements are as follows:

- 64 axis electronic gear, position synchronization
- Synchronous acceleration-deceleration, starting and stopping
- Dynamic adjustment of stretching ratio
- Controlling inter-axis tension to prevent wire breakage

This machine uses MC5000EB64 bus medium PLC as its control core, and controls the synchronous acceleration-deceleration, starting and stopping of the 64 axis through the EtherCAT bus electronic gear, while keeping the tension between the axis constant.

MC5000EB64 can fully meet this systematic requirement that synchronously controls 64 axis and operate at different inter-axis proportional speeds, which are extremely high requirement for the arithmetic speed and performance of controller. The performances of high precision in bus gear linkage control and high difficulty line-breaking can achieve the operation for constant linear winding and unwinding easily.

