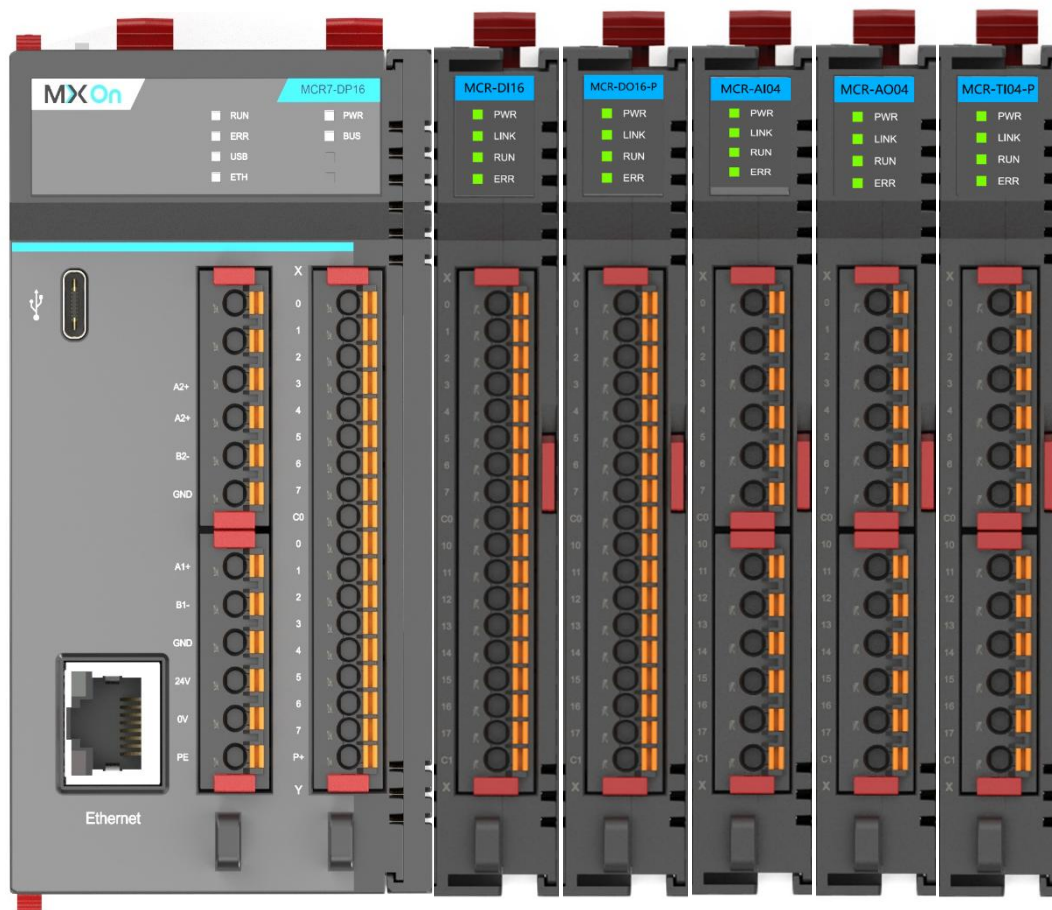




MCR7 Series PLC

Programmable Logic Controller



**Compact
Modular Design**



**Removable
Terminal Block**



**Flexible
I/O Expansion**



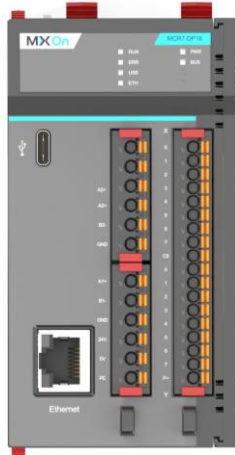
**35mm DIN Rail
Mounting**

PRODUCT LINEUP

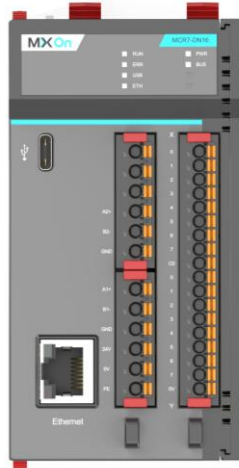


Category	Model	Key Features
CPU Module	MCR7-DR14	8-point input / 6-point relay output
	MCR7-DN16	8-point input / 8-point NPN transistor output 200 kHz PTO, 4-axis pulse train output
	MCR7-DP16	8-point input / 8-point PNP transistor output / 100 kHz PTO, 4-axis pulse train output
	MCR7-DR14 01	Expansion not available
	MCR7-DN16 01	Expansion not available
	MCR7-DP16 01	Expansion not available
Expansion Module	MCR-DI16	16-point NPN/PNP bipolar input
	MCR-DO06-R	6-point relay output
	MCR-DO16-N	16-point NPN transistor output
	MCR-DO16-P	16-point PNP transistor output
	MCR-DX16-N	8-point bipolar input + 8-point NPN output
	MCR-DX16-P	8-point bipolar input + 8-point PNP output
	MCR-AI04	4-point 16-bit voltage/current input
	MCR-AO04	4-point 16-bit voltage/current output
	MCR-AX04	2-point analog input + 2-point analog output
	MCR-TI04-P	4-point RTD(Pt/Ni/Cu sensors) input
	MCR-TI04-K	4-point thermocouple and NTC/PTC input

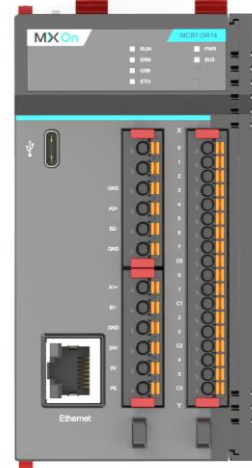
CPU MODULE



MCR7-DP16
DC 24 V, PNP Output CPU



MCR7-DN16
DC 24 V, NPN Output CPU



MCR7-DR14
DC 24 V, Relay Output CPU

Model		MCR7-DN16 (MCR7-DN16 01)		MCR7-DP16 (MCR7-DP16 01)	MCR7-DR14 (MCR7-DR14 01)
Power		DC 24V			
Input	Input Type	Bipolar transistor			
	Points	8			
	Rated Voltage	DC 24V			
	Rated Current	7mA			
High Speed Counter (HSC)	Points	8			
	AB Phase	4			
	Counter Frequency	200kHz			
Output	Output Type	NPN	PNP	Relay	
	Points	8	8	6	
	Rated Voltage	DC 24V	DC 24V	DC 24V AC220V	
	Rated Current	500mA	500mA	2A	
Pulse Train Output (PTO)	Points	8	8	-	
	Axis	4	4	-	
	Pulse Frequency	200kHz	100kHz	-	
Interface	Serial	RS485 * 2 ports			
	EtherNet	1			
Expansion Module Compability		Max 16			

* 01 models cannot connect expansion modules.

DIGITAL I/O MODULE

					
MCR-DI16 Digital Input	MCR-DO16-P Digital Output (PNP)	MCR-DO16-N Digital Output (NPN)	MCR-DO06-R Digital Output (Relay)	MCR-DX16-P Digital I/O (PNP)	MCR-DX16-N Digital I/O (NPN)

Model	MCR-DI16
Points	16 (NPN/PNP Bipolar)
Rated Voltage	DC 24V
Voltage Range	DC 0-28.8V
Rated Current	7mA
Dimension	111 * 18 * 76 mm
Weight	65g

Model	MCR-DO06-R	MCR-DO16-P	MCR-DO16-N
Points	6 (Relay)	16 (PNP)	16 (NPN)
Rated Current	Maximum 5A	Single channel output : Max.1000mA Simultaneous output : Max.500m	
Current/Group	4A (Relay output @60°C, 50% derating required)	0.5A * Output point of each group	
Rated Voltage	DC 24V AC 220V	DC 24V	
Voltage Range	DC 5-30V AC 100-250V	DC 19.2-28.8V	
Dimension	111 * 18 * 76 mm		
Weight	65g		

Model		MCR-DX16-N	MCR-DX16-P
Input	Points	8 (NPN/PNP Bipolar)	
	Rated Voltage	DC 24V	
	Voltage Range	DC 0-28.8V	
	Rated Current	7mA	
Output	Points	8 (NPN)	8 (PNP)
	Rated Voltage	DC 24V	
	Voltage Range	DC 19.2-28.8V	
	Rated Current	0.5A	
	Current/Group	0.5 * Output point of each group	
Common	Dimension	111 * 18 * 76 mm	
	Weight	65g	

ANALOG I/O MODULE



MCR-AI04
Analog Input



MCR-AO04
Analog Output



MCR-AX04
Analog I/O

	Model	MCR-AI04	MCR-AX04	MCR-AO04
Input	Points	4 (Analog)	2 (Analog)	
	Resolution	16 Bit		
	Input/Output Signal	Voltage : 0-10V Current : 0-20mA		
	Full Range Value	Customized (-30000~30000)		
	Conversion Precision (Full Scale Range)	±0.2%		
	Maximum Input Signal	Voltage : 30V Current : 30mA		
	Impedence Input	Voltage : >200k ohms Current : <250 ohms+5%		
	Dimension	111 * 18 * 76 mm		
	Weight	65g		
Output	Points		2 (Analog)	4 (Analog)
	Resolution		16 Bit	
	Input/Output Signal		Voltage : 0V~10V Current : 0~20mA	
	Full Range Value		Customized (-30000~30000)	
	Conversion Precision (Full Scale Range)		±0.5%	
	Impedence Input		Voltage : >2k ohms Current : <500 ohms	
	Dimension		111 * 18 * 76 mm	
	Weight		65g	

TEMPERATURE INPUT MODULE



MCR-TI04-P
RTC Input



MCR-TI04-K
TC Input

Model	MCR-TI04-P	MCR-TI04-K
Points	4	4
Sensor Type	Pt100, Pt1000, Ni100, Ni120, Ni1000, Cu50, Cu100	K/J/R/S/B/E/T/N/C type thermocouple, NTC/PTC
Measuring Range	Pt100 : -200 ~ 850°C Pt1000 : -200 ~ 600°C Ni100 : -60 ~ 180°C Ni1000 : -60 ~ 180°C Cu50 : -50 ~ 150°C Cu100 : -50 ~ 150°C	K Type : -200 ~ 1300°C J Type : -200 ~ 1000°C R Type : 0 ~ 1760°C S Type : 0 ~ 1760°C B Type : 0 ~ 1820°C E Type : -200 ~ 800°C T Type : -200 ~ 400°C N Type : -200 ~ 1300°C C Type : 0 ~ 2315°C NTC : 100Ω ~ 200kΩ / -90 ~ 150°C PTC : 100Ω ~ 10kΩ
Measuring Precision	Larger value between $\pm 0.5\%$ and $\pm 1^\circ\text{C}$	TC : Larger value between $\pm 0.3\%$ or $\pm 1^\circ\text{C}$ NTC/PTC : Larger value between $\pm 0.1\%$ and $\pm 1^\circ\text{C}$
Power Consumption	Max 50mA @DC 5.0V	
Dimension	111 * 18 * 76 mm	
Weight	65g	

MCR MASTER SOFTWARE

Graphical Configuration

Build and verify your hardware topology visually with a clear, easy-to-understand configuration interface.

Multiple Programming Languages

Create control logic in Ladder Diagram (LD) and Structured Text (ST) to suit different applications and user preferences.

PLC Open Command

Supports PLC open motion control commands for easier implementation of servo axis control, positioning, homing, and synchronized motion.

Graphical Configuration

The screenshot displays the MCR MASTER SOFTWARE graphical configuration interface. The interface is divided into several sections:

- Left Sidebar:** A tree view showing the configuration hierarchy, including CPU (MCR7-DP16), Built-in Digital Inputs, Built-in Digital Outputs, Ethernet, COM1, COM2, Slave Network Address, Motion Axis, Axis Group, Electronic CAM, and Extension I/O Bus.
- Hardware Rack:** A visual representation of the PLC hardware rack, showing the CPU and various expansion modules (MCR-DI16, MCR-DO16-N(P), MCR-AI04, MCR-AO04, MCR-TI04-K, MCR-TI04-P).
- Basic Information Tab:** A table showing the configuration details for each module.

Location	Model	PowerType	Specification (...)
CPU	MCR7-DP16	DC	56"118"76
EM1	MCR-DI16		18"118"76
EM2	MCR-DO16-N(P)		18"118"76
EM3	MCR-AI04		18"118"76
EM4	MCR-AO04		18"118"76
EM5	MCR-TI04-K		18"118"76
EM6	MCR-TI04-P		18"118"76

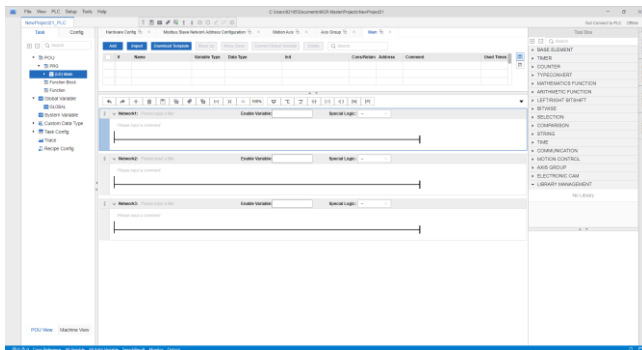
Additional information displayed in the Basic Information tab:

- 2 embedded serial communication ports (COM), 1 ethernet port, 8 digital inputs (200KHz high-speed inputs), 8 NPN(PNP) outputs (200KHz high-speed outputs)**
- Bus Topology**
- Total Width:** about 164
- Height:** about 118 (not include 4G antennas or connecting terminal)
- Depth:** about 76 (not include Modbus serial port)
- I/O Summary**

I/O Type	I/O Counts
Digital Inputs	24
Relay Outputs	0
Transistor Outputs	24
Analog Inputs	4

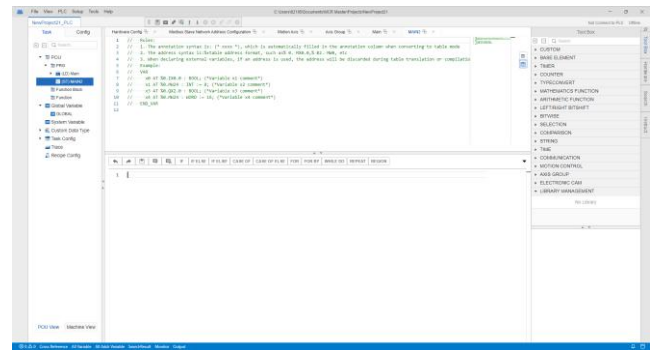
Configure CPUs and expansion I/O modules visually for faster setup, easier verification, and reduced commissioning time.

Flexible Programming Environment



Ladder Diagram (LD)

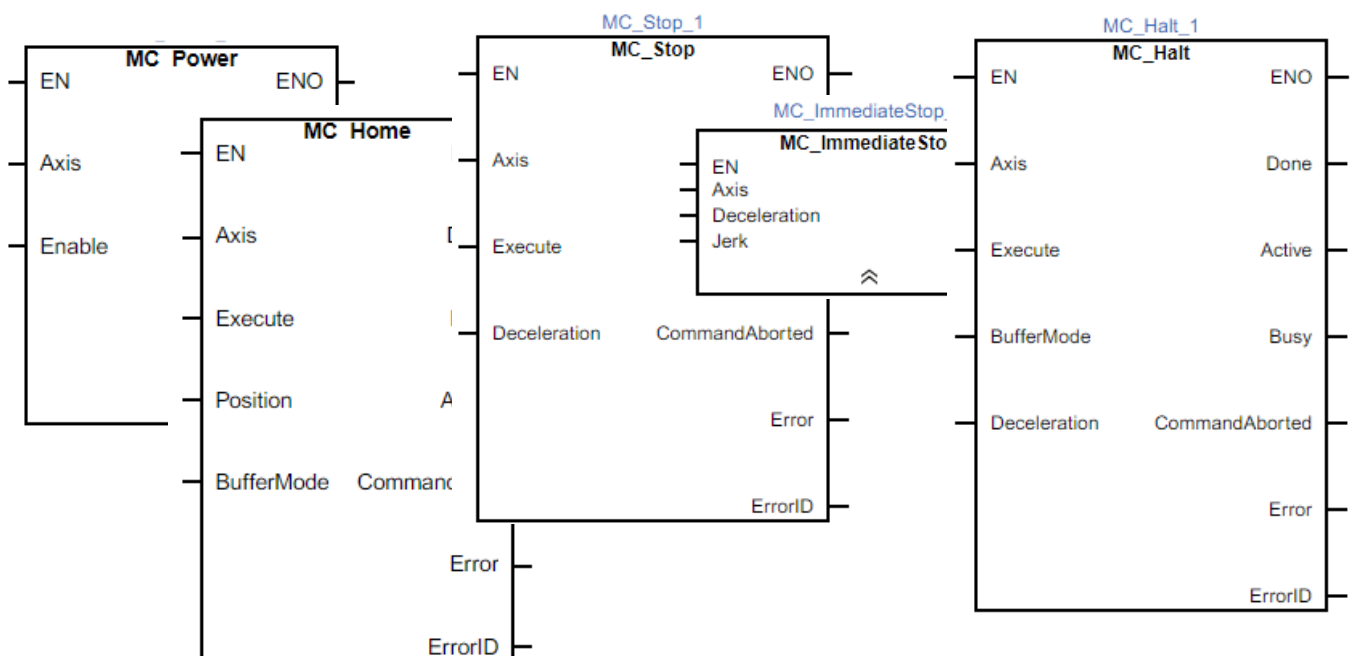
Use a familiar ladder interface to create machine logic quickly, improve readability, and simplify troubleshooting in the field.



Structured Text (ST)

Develop advanced sequences and reusable logic efficiently with IEC 61131-3 structured text for more scalable control applications.

PLCOpen Command



MCR Master supports PLCOpen commands, standardized feature for various motion control commands and multiple homing modes for easier servo axis control and machine positioning.