

DRIVING INDUSTRIAL DEVICE INTELLIGENCE

An innovative provider of industrial automation
core components and digital integration solutions.



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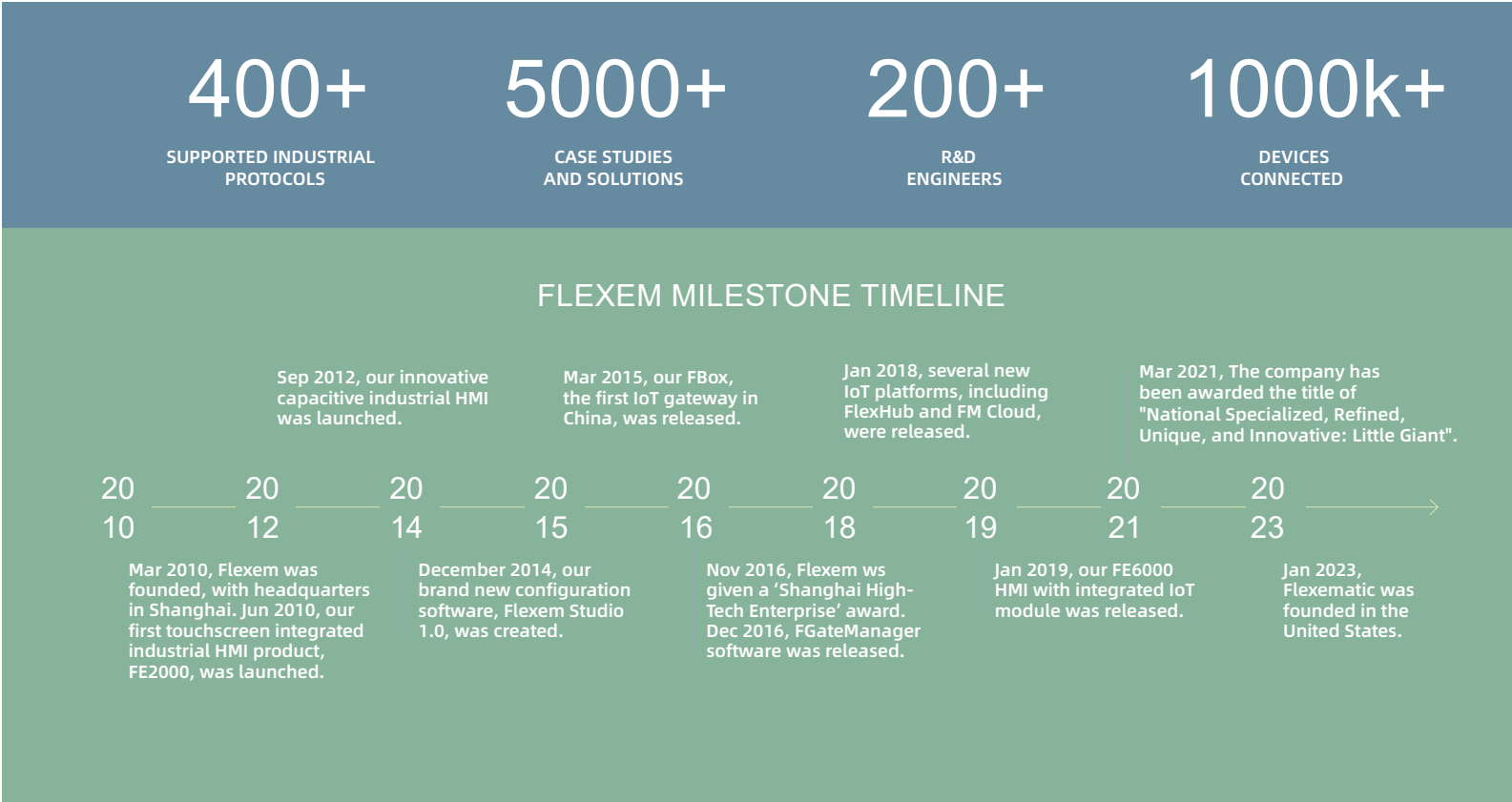
COMPANY OVERVIEW

Flexem Technology is an innovative provider of industrial automation core components and digital integration solutions.

We offer automation solutions with strong IoT capabilities to OEMs and end users across a wide range of industries and applications, including semiconductor, 3C, photovoltaic equipment, lithium battery, packaging machinery, HVAC equipment, pump control, electronic devices, oil & gas and smart agriculture.

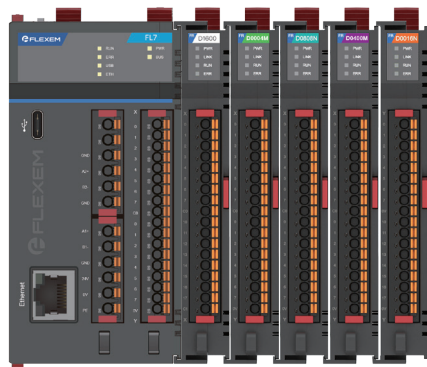
Our wide portfolio of industrial automation and digitalization solutions - including HMIs, PLCs, remote IOs, industrial gateways, high performance servos, IoT and digital software platforms - delivers complete solutions for equipment manufacturers and end users.

Flexem was founded in 2010 in China and has become a prominent industrial automation, motion control and IoT company.



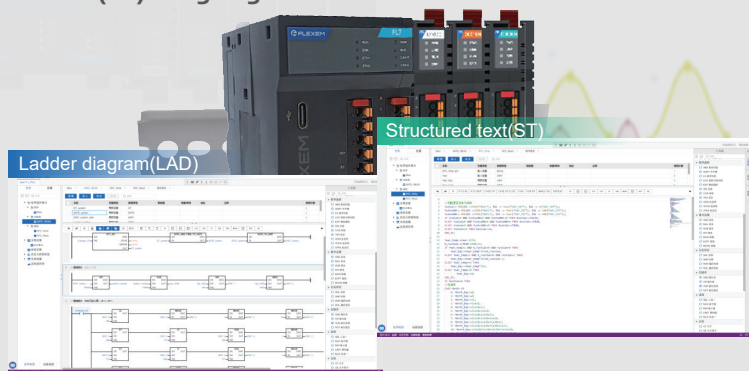
Flexem Intelligent PLC

FL7 Series PLC-



Supports Ladder Diagram(LD) and Structure Text(ST) language

Flexem FL7 series intelligent PLC project development is based on FStudio Unified software which supports LD and ST programming language, easy to solve problems in various scenarios.



Graphical interface, more intuitive

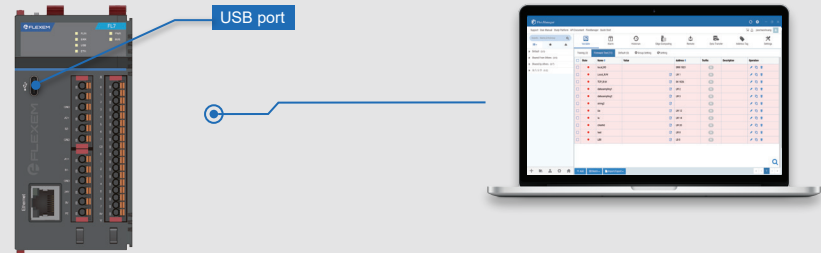
FSU software provides graphical interface with more intuitive hardware configuration display, and facilitate to project settings for more efficient project development.



PLC project download without external power supply

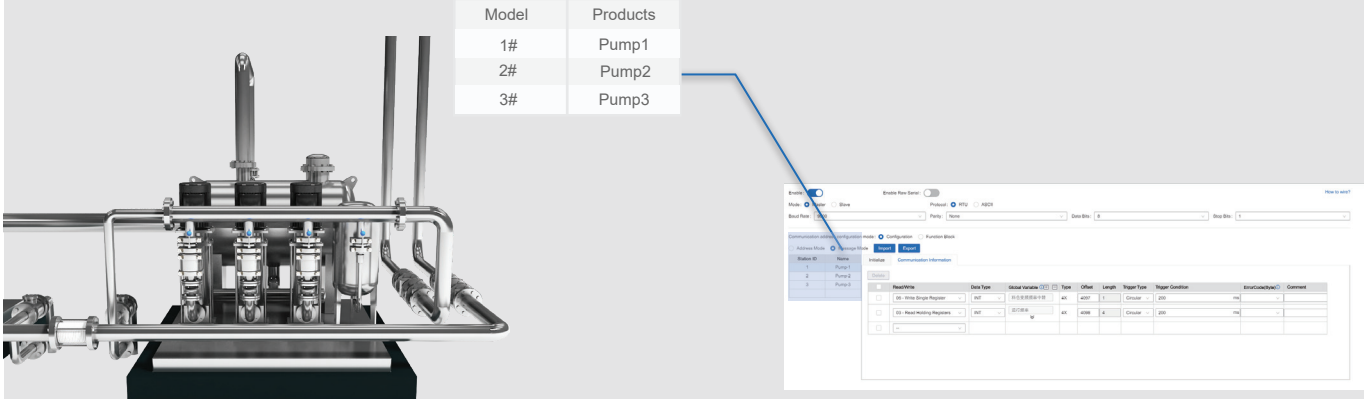
If there is no external power supply for Flexem FL7 series intelligent PLC, it also can download project with Type-C data cable used to connect the FL7 PLC and the computer.

- Online debugging
- Remote Update
- Download without external power
- Easy to use



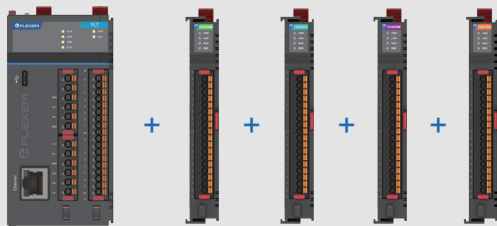
Support Modbus-RTU/TCP protocol

Flexem FL7 series intelligent PLC supports Modbus-RTU/TCP protocol, easy to configure communication settings without any code. For same protocol but multiple slaves, it supports to copy one slave configuration to others for rapid project development.



Abundant models and various expansion modules

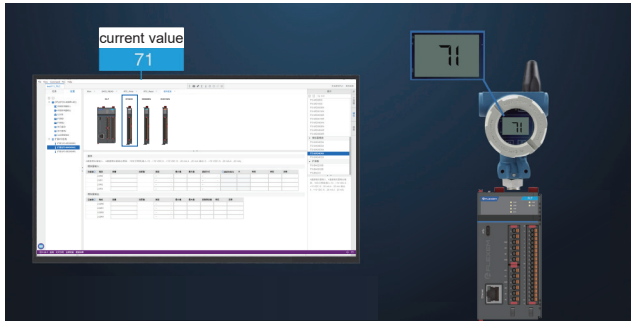
Flexem FL7 series intelligent PLC has different power input methods, output types, abundant I/O points, and dozens of digital and analog expansion modules for customers to select. In addition, hidden expansion board provides more economic and convenient solution.



Product introduction

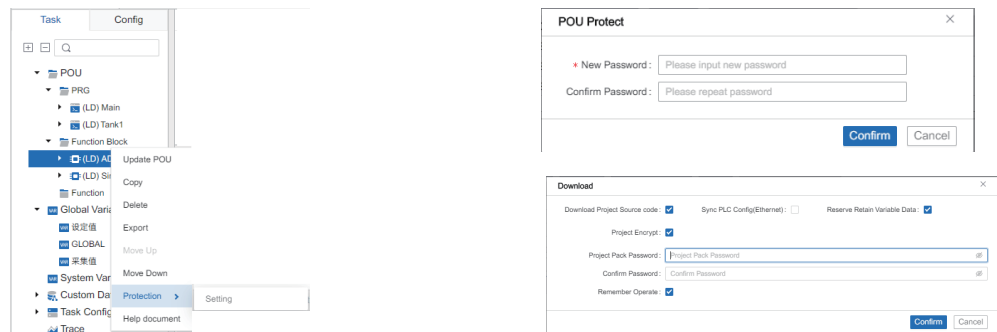
Automatic analog conversion

Analog input and output directly correspond to the actual engineering quantity, without complicated conversion, easy to use.



Multiple encryption modes

Three encryption methods: POU encryption, engineering encryption and source program encryption, effectively protect your intellectual property rights, avoid damage to core interests.

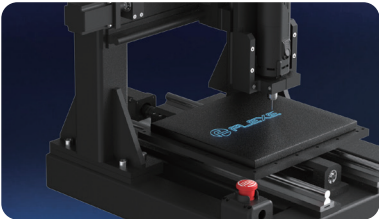


High-speed pulse output

The FL7 features 8 built-in high-speed pulse outputs and supports advanced motion control functions such as linear interpolation, circular interpolation, follow cutting, and flying shear, enabling easy implementation of complex trajectories and multi-axis coordinated control.

Interpolation function

Complex curves made easy — supports linear and circular interpolation.



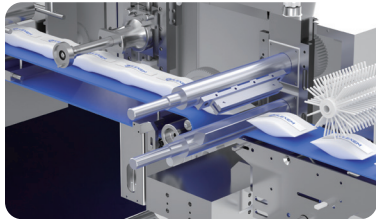
Follow cutting function

Precise control and dynamic positioning



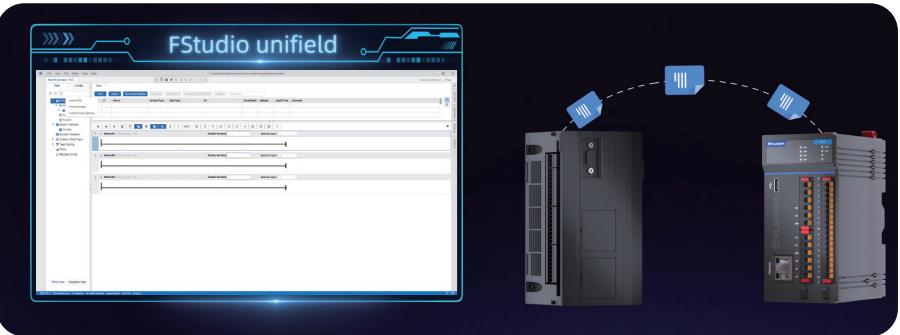
Flying shear function

Rotary cutting synchronization — fast and precise



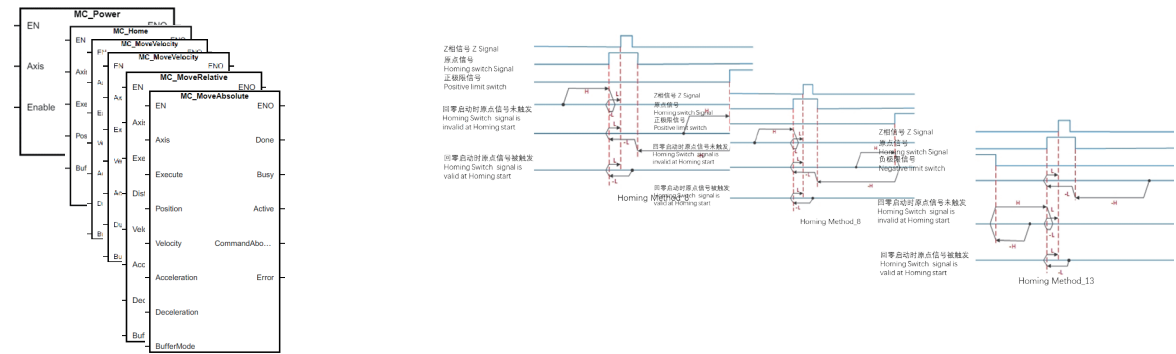
Cross-platform program conversion and project migration for seamless replacement

Supports multi-brand PLC import for rapid project development, reducing development costs and accelerating time to market.



Standard PLCOpen command, 31 PLCOpen homing mode

FL7 series uses the standard PLCOpen command to edit the program of the motion axis, which is easy to use and improves the development efficiency; Support PLCOpen standard 31 homing modes,handle a variety of models with ease.



Product characteristics

Product characteristics

- FL7 series intelligent PLC built-in Ethernet communication port, support 12 network connections (server + client)
- Rich built-in features greatly reduce your equipment costs:
 - Two Modbus serial communication ports, Type-C USB programming ports, high-speed pulse input and output, etc.
 - FL7 series expansion modules, up to ten models, including digital and analog input and output;
- CPU power:
 - Operation speed: 7ns/ Boolean instruction, 10ns/ floating point instruction
- Storage area for user programs and variables:
 - RAM: 192KB
 - ROM: 2MB

Common attributes of CPU and expansion modules

Reference	Features
Wiring Strucutre	Removable terminal block
Working Temperature	-10~60°C
Storage Temperature	-20~70°C
EnvironmentHumidity	5%~95%RH (Non-condensing)
Installation	installed on the rail of DIN46277(35mm wide)

FL7 CPU

Reference		FL721-0808N-D	FL721-0808P-D	FL721-0806R-D
Power		DC 24V		
Input	Input type	Bidirectional transistor		
	Points	8		
	Rated Voltage	DC 24V		
	Rated Current	7 mA		
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; AC 220V
	Rated Current	500mA	500mA	2A
PTO	Points	8	8	-
	Axis	4	4	-
	Pulse Frequency	200kHz	100kHz	-
Communication	Serial Communication	2*RS485		
	EtherNet	1		
Expansion module compatibility		16		

Analog input module

Model	FR-A0400M
Input	4
Output	—
Resolution	16 bit
Input/Output Signal	Voltage-10V~10V; Current 0~20mA
Full Range Value	Customized (-30000~30000)
Conversion Precesion (Full Scale Range)	±0.2%
Maximum Input Signal allowed	Voltage:30V; Current:30mA
Imoedence Input	Voltage>200K ohms; Current<250 ohms+ 5%
Dimension	111*18*76 mm
Weight	65g

Analog output module

Model	FR-A0004M
Input	—
Output	4
Resolution	16-bit
Input/Output Signal	Voltage: 0V~10V; Current: 0~20mA
Full Range Value	Customized (-30000~30000)
Conversion Precesion (Full Scale Range)	±0.5%
Imoedence Input	Voltage >2k ohms; Current <500ohms
Dimension	111*18*76 mm
Weight	65g

Digital output module

Model	FR-D0006R	FR-D0016P	FR-D0016N
Channel	6*output (Relay)	16*output (PNP)	16*output (NPN)
Rated Current	Maximum:5A	Single channel output:Max.1000mA Simultaneous output: Max.500mA;	
Current/group	4A (relay output @60°C, 50% derating required)	0.5A*Output point of each group	
Rated Voltage	24VDC , 220VAC	24VDC	
Voltage Range	5V-30VDC,100-250VAC	19.2~28.8VDC	
Dimension	111 * 18 * 76 mm		
Weight	65g		

Digital input module

Model	FR-D1600
Channel	16*Bipolar input (NPN/PNP compatible)
Rated Voltage	24VDC
Voltage Range	0~28.8 V DC
Rated Current	7mA
Dimension	111*18*76 mm
Weight	65g

Digital mixed module

Model	FR-D0808N	FR-D0808P
Input		
Input Characteristics	8 Point Bipolar(NPN/PNP)	
Rated Voltage	24 V DC	
Input Range	0~28.8 V DC	
Rated Current	7mA	
Output		
Output characteristics	8*NPN	8*PNP
Rated Voltage	24 VDC	
Voltage Range	19.2~28.8VDC	
Rated Current	0.5 A	
Current/group	0.5A*Output point of each group	
Dimensions	111*18*76 mm	
Weight	65g	

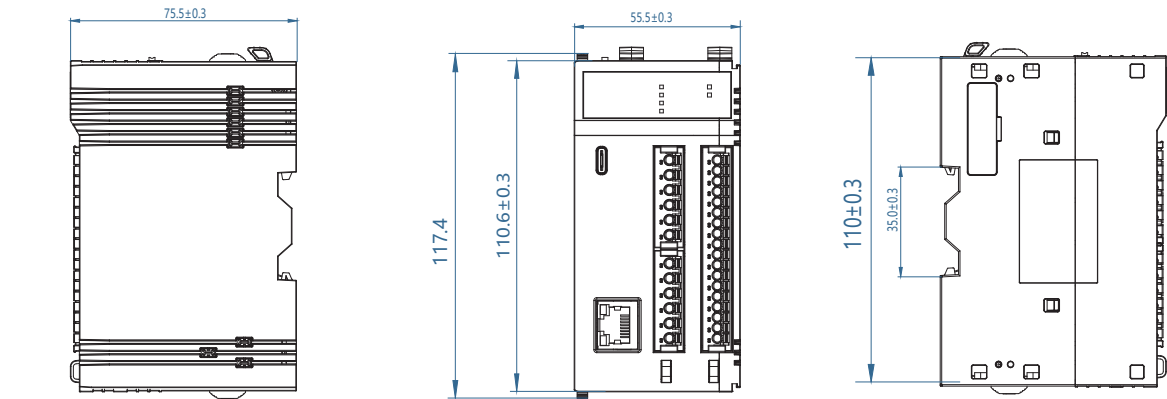
Analog module

Model	FR-T0400P	FR-T0400K
Channel	4	4
Sensor Type	Pt100, Pt1000,Ni100, Ni120, Ni1000, Cu50, Cu100	K, J, R, S, B, E, T, N, C type thermercouple NTC/ PTC
Measuring Range	PT100 -200...850 °C NI100 -60...180 °C PT1000 -200...600 °C NI 1000 -60...180 °C Cu50 -50...150°C Cu100 -50...150°C	K -200...1300 °C, J -200...1000 °C NTC: Measuring rang:100 Ω...200 kΩ R 0...1760 °C, S 0...1760 °C Temperature calculation range: B 0...1820 °C, E -200...800 °C -90...150 °C T -200...400 °C, N -200...1300 °C PTC: Measuring rang:100 Ω...10 kΩ C 0...2315 °C
Measuring Precision (Under 25°C Environment)	±0.5% or ±1°C, take the larger value	Thermercouple: (±0.3% or ±1°C of dispay value,take the larger value) NTC: (±0.1% or ±1°C of dispay value,take the larger value)
Power	Max.50mA@5.0Vdc	
Dimension	111*18*76 mm	
Weight	65g	

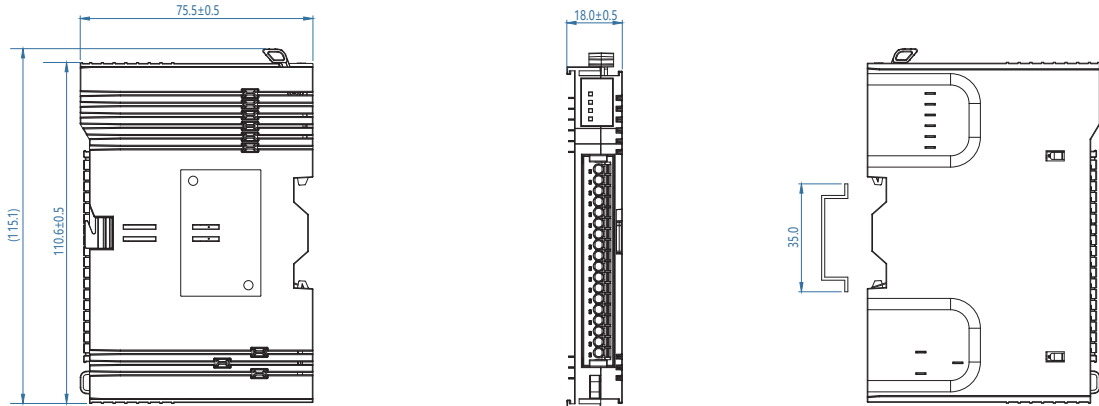
Dimension

Unit: mm

FL7 CPU



Expension Module



Reference List

Reference	Describe
FL721-0808N-D	DC 24V power supply, 2 built-in serial communication ports, 1 Ethernet port, 8 channels of 200 kHz high-speed inputs, 8 channels of NPN transistor high-speed outputs
FL721-0808P-D	DC 24V power supply, 2 built-in serial communication ports, 1 Ethernet port, 8 channels of 200 kHz high-speed inputs, 8 channels of PNP transistor high-speed outputs
FL721-0806R-D	DC 24V power supply, 2 built-in serial communication ports, 1 Ethernet port, 8 channels of 200 kHz high-speed inputs, 6 relay outputs
FR-A0004M	4-channel analog output with 16-bit resolution, supporting 0–10V and 0–20mA ranges
FR-A0400M	4-channel analog input with 16-bit resolution, supporting ±10V and 0–20mA ranges
FR-D0006R	6 relay outputs, 2A/point
FR-T0400K	4-channel temperature sensor input for thermocouples.
FR-T0400P	4-channel temperature sensor input for platinum resistance (RTD).
FR-ECAT	EtherCAT communication coupler
FR-D1600	16-channel digital input
FR-D0016P	16-channel PNP digital output
FR-D0016N	16-channel NPN digital output
FR-D0808P	8-channel digital input & 8-channel PNP digital output
FR-D0808N	8-channel digital input & 8-channel NPN digital output