

Samkoon Product Portfolio

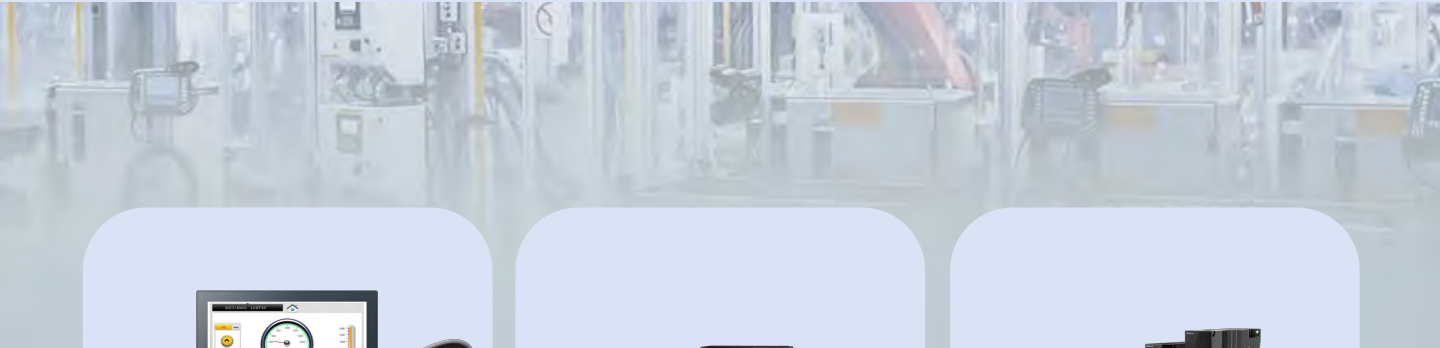
HMI | PLC | HMI+PLC All-in-One | Servo Drive |
Drive + Control All-in-One





About Samkoon Technology

Focus on the R&D and manufacturing of automation products, and provide complete solutions for Industry 4.0



HMI

- SK Series



Control Unit

- FAs Series PLC
- FAT Series PLC
- PRO, MAX Series Bus PLC
- GT Series All-in-One



Drive

- R8 Series Servo Drive
- HK Series Servo Motor
- M9 Series Drive+Control All-in-One





INTRODUCTION

Founded in March 2007, Shenzhen Samkoon Technology Co., Ltd. (Samkoon) is a leading innovator in industrial automation solutions in China. With a global presence in over 40 countries and a customer base of more than 14,000 clients, Samkoon is committed to driving the future of smart manufacturing through cutting-edge technology and reliable engineering.

Samkoon specializes in advanced, high-performance industrial control products including Human-Machine Interfaces (HMI), Programmable Logic Controllers (PLC), integrated HMI+PLC solutions, servo systems, Variable Frequency Drives (VFD), and Industrial IoT platforms. Every solution is engineered for precision, efficiency, and long-term reliability.

Vision

- To be a leading provider of intelligent manufacturing solutions in China.

Mission

- To support the upgrade of China's intelligent manufacturing with high-performance, reliable industrial automation solutions.

Value

- Customer-focused, innovation-driven development.

60,000+ m²
Factory

300+
Global
employees

20+
Intellectual
property rights

45,000+
Automation
projects



2007

Samkoon was founded and released 260,000 true-color LCD HMI series products



2009

Honored as the 'Industrial Control Research Demonstration Base' by the National Science and Technology Regulatory Commission.



2011

Awarded as "National High-tech Enterprise"



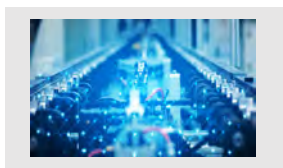
2012

Successfully developed the Samkoon PLC and launched the compiled PLC after three years of development, achieving a tenfold increase in scanning speed.



2017

Partnered with HUST to establish a research base for postgraduate studies.



2017

Held a new product launch at the Shenzhen Xilihu Conference Center to showcase our leadership in industrial control with four core technologies.



2018

Signed a cooperation agreement with THU, officially becoming the practice base for PhD students in automation.



2019

Constructed a 20,000 m² production plant in the Shenzhen-Shanwei Cooperation Zone, accelerating industrialization and standardization.



2021

Samkoon Technology was selected as a governing member of the Shenzhen Advanced Manufacturing Federation.



2022

Samkoon Technology has been recognized as a 'Specialized, Refined, and New' small and medium-sized enterprise by Shenzhen.



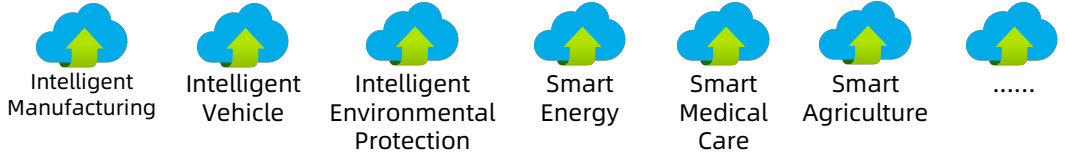
2023

The groundbreaking ceremony for Samkoon Technology's Smart Automation Industrial Park was successfully held in the Shenzhen-Shantou Special Cooperation Zone, marking a significant milestone in the company's development and future growth.

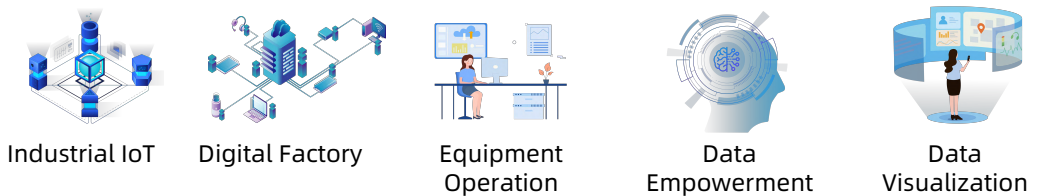


Comprehensive Solutions in Industrial Automation and Digitalization

Industry Solutions:



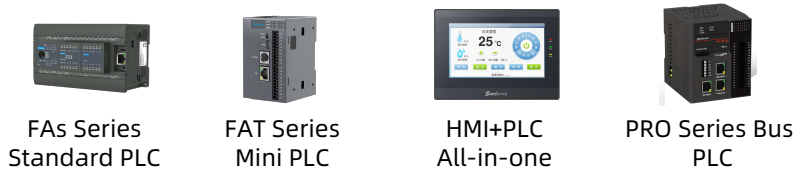
Samkoon Cloud:



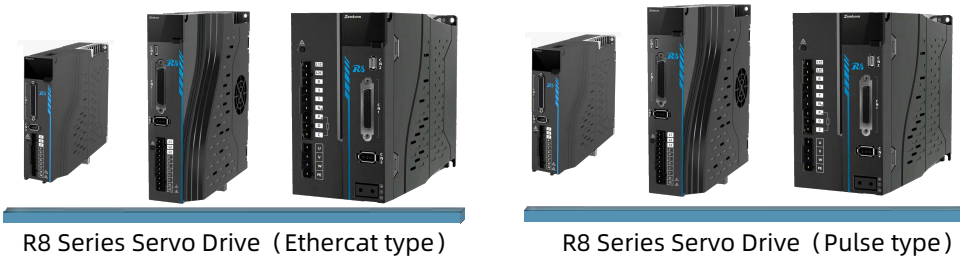
HMI layer



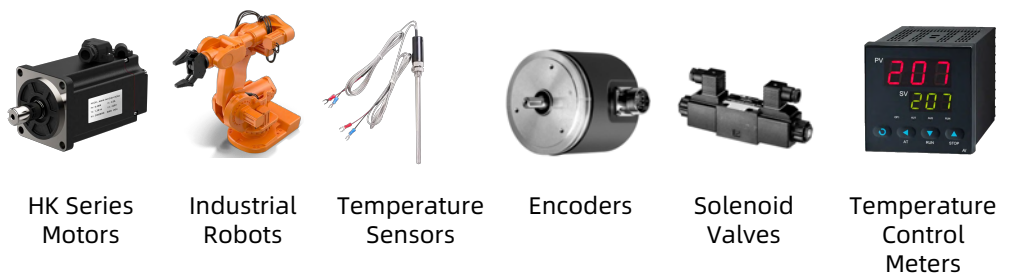
Control layer



Servo Drive



Execution/ Sensor:



HMI	01
SK Series HMI	02
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Human Machine Interface

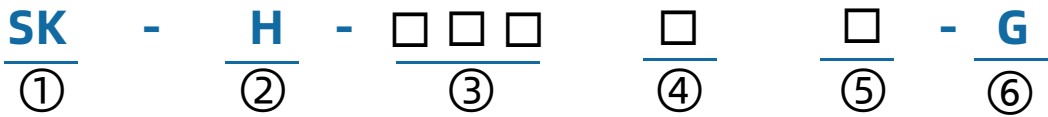


IoT HMI | Isolated Serial Port HMI | Waterproof HMI | HD HMI | Handheld HMI



The SK series Human-Machine Interface (HMI) products offer a robust lineup with a full range of sizes from 3.5 to 15.6 inches. Equipped with a variety of interface options—including Ethernet, serial, and USB ports—the series provides flexible choices to meet diverse user needs.

Naming Rules



① SK: SK Series HMI

② H: high-performance
T: hand-held

③ 035: 3.5"
043: 4.3"
050: 5.0"
057: 5.7"
070: 7.0"
102: 10.2"
121: 12.1"
150: 15"
156: 15.6"

④ A/B/F/H/C/G/M/X/Q :
Different hole size

070: A/F/G Same hole size
070: B/H/M/Q Same hole size

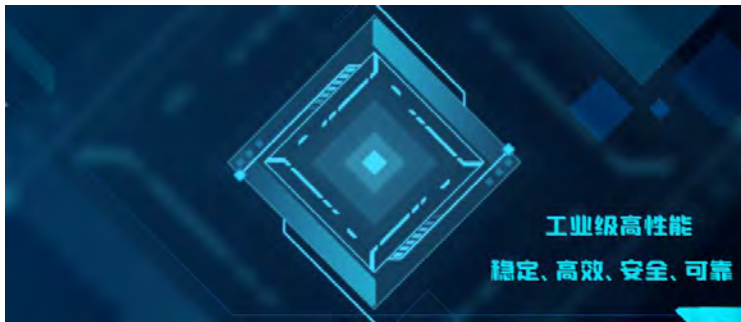
⑤ E: Without Ethernet port
S: With Ethernet port
G: Equipped with 4G module
D: With Ethernet port and CAN bus support
W: With Wi-Fi module
T: With external RS485 terminal
F: Waterproof
H: High-definition display

⑥ G: IoT HMI

Product Features

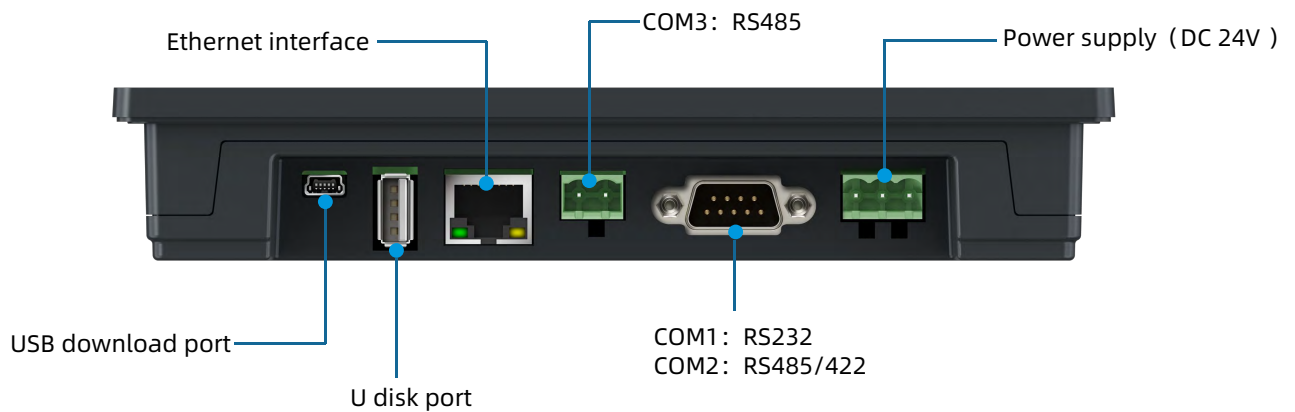
High-performance configuration

- Based on Linux system, which is stable, efficient, safe and reliable
- Industrial high-performance Cortex A7 processor up to 1GHz. dual core
- High capacity 256MB FLASH+128MB DDR3, support external U disk storage
- Support WIFI/4G/ethernet



Multiple interface embedding

- Support multiple communication modes (RS232/422/485, Ethernet, WIFI, 4G)
- Support usb download, ethernet download, U disk update configuration

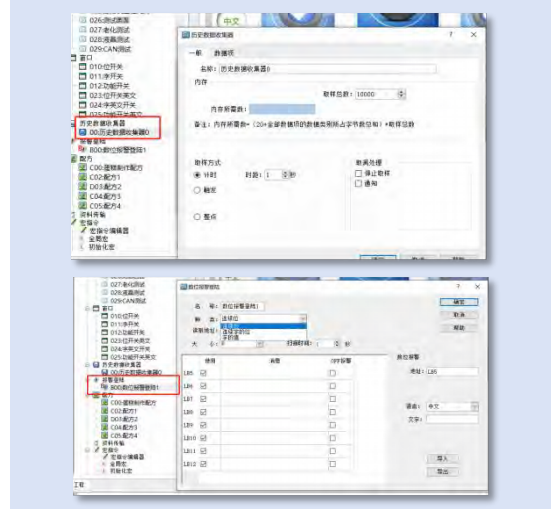


Diversified Functional Modules

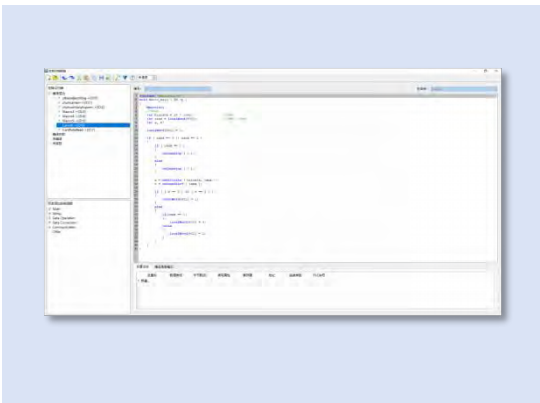
- Support multi-group formula, multi-window function



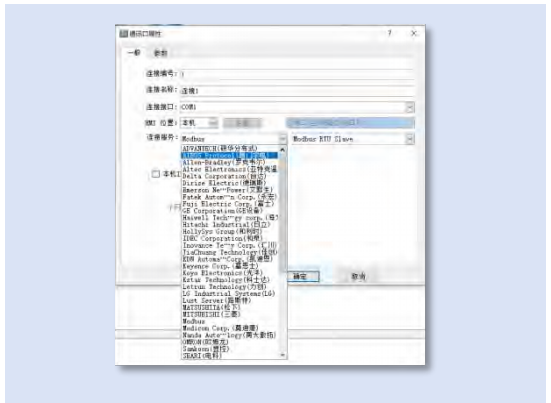
- Support shorthand collection, data alarm function



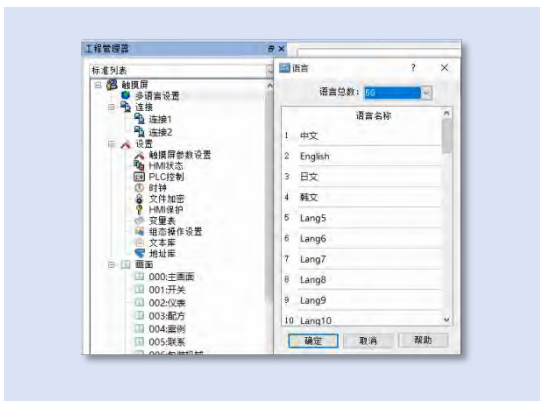
- Support macro instruction based on C language development



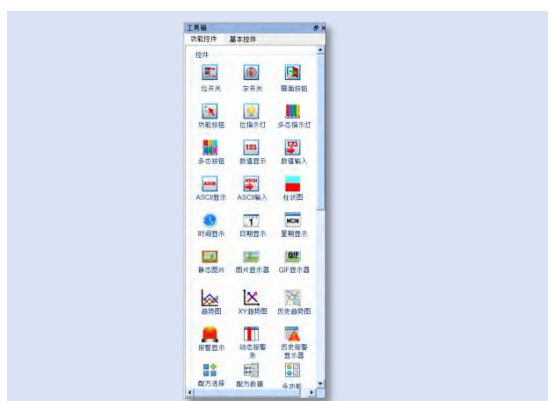
- Support more than 300 PLC communication protocols



- Support 50 languages

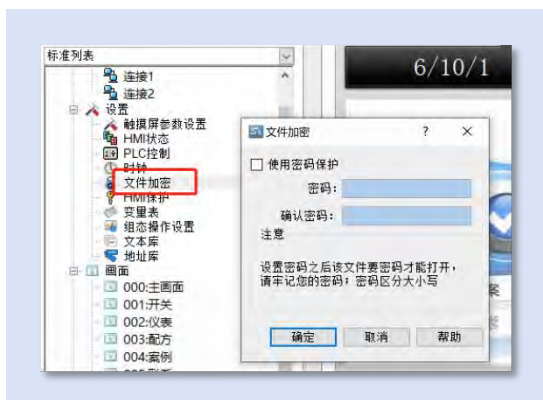


- Multifunctional and control diversification



Brand new code system

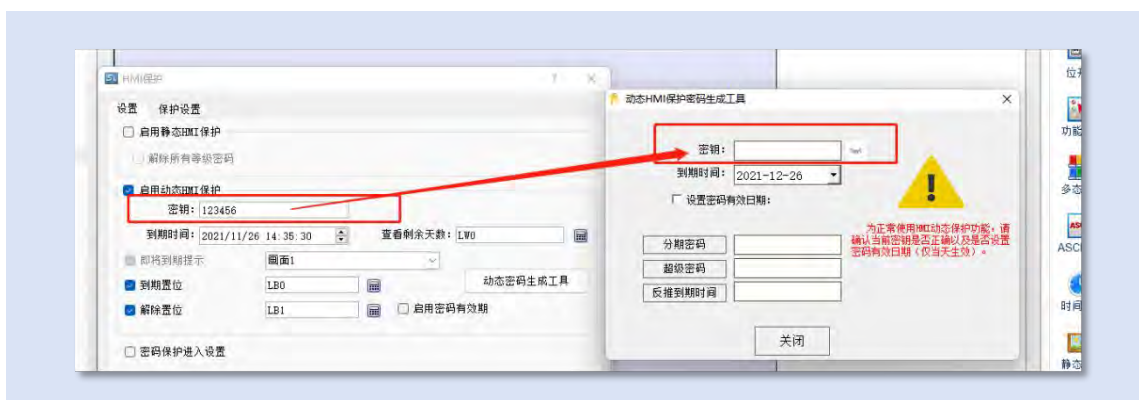
- Configuration file encryption



- Multiple security systems, safe and reliable



- Installation payment, HMI protection



Abundant choice of color

- 16,770,000 true color display



Strict brand control

- Qualified by FCC, ClassA and CE

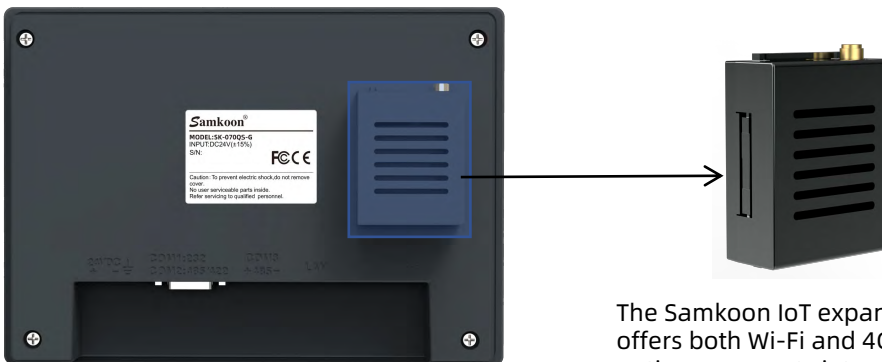


Samkoon's IoT Human-Machine Interface (HMI) can be quickly connected to the Internet via a dedicated IoT expansion module. The module attaches to the main HMI unit using convenient fasteners, enabling true plug-and-play functionality.

Product Features

Free to choose WIFI/4G networking mode

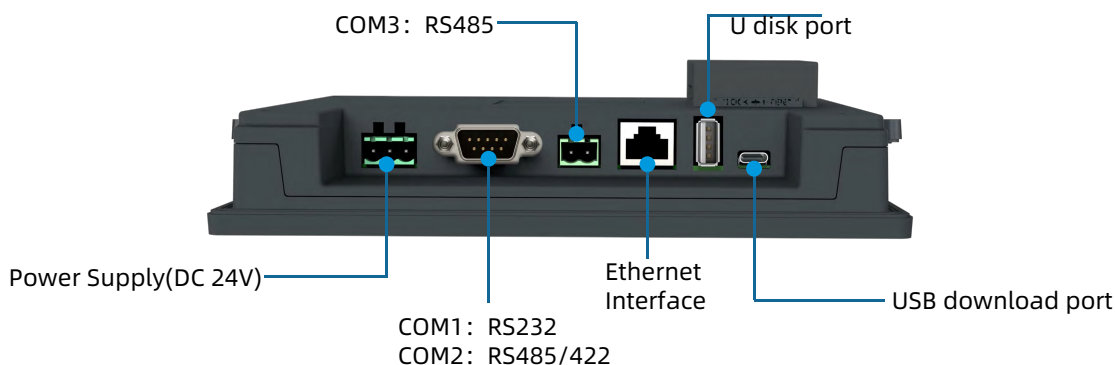
- According to the combination of the field of use



The Samkoon IoT expansion module offers both Wi-Fi and 4G connectivity options, supports integration with display control cloud platforms, and features plug-and-play functionality for easy installation.

Abundant interfaces and powerful communication capabilities

- Support multiple communication modes (RS232/422/485, Ethernet, WIFI, 4G)
- Support usb download, U disk update configuration



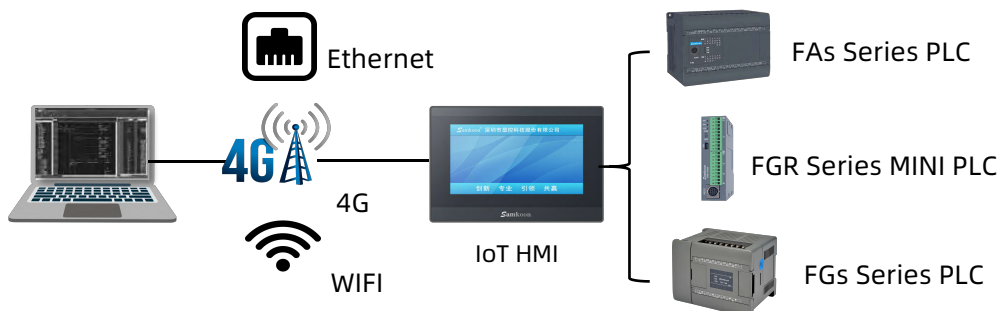
VNC function

- Easily synchronize HMI data and screen content with both PC and mobile devices. Users can remotely monitor and control the touch screen in real time—anytime, anywhere, without the need to be on-site.
- Support display control Cloud 3.0



Remote transparent transmission

- Supports remote downloading and real-time monitoring of PLC programs, helping engineers troubleshoot and maintain systems without the need for on-site visits.



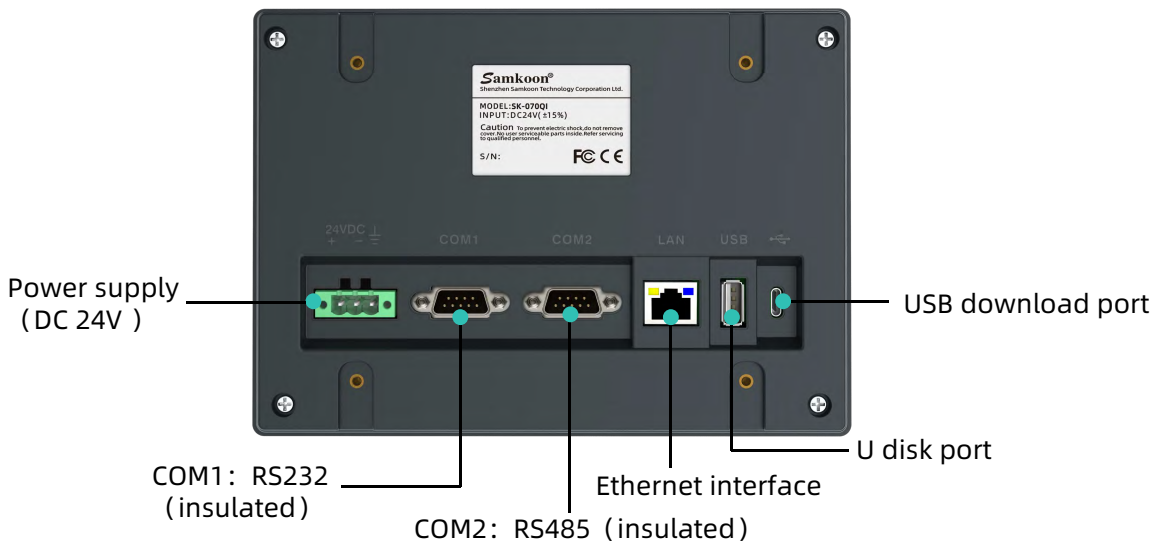


Samkoon's 7-inch HMI with serial port isolation electrically separates the screen from connected devices, effectively protecting against external interferences such as static electricity, surges, and harmonics—ensuring stable communication and safeguarding internal components.

Product Features

- Serial port isolation, stable communication
- Adapt to various harsh environments, strong magnetic interference and other working situations
- Structural innovation, serial port vertical outlet
- Based on Linux system, which is stable, efficient, safe and reliable
- Industrial high-performance Cortex A7 processor up to 1GHz.dual core
- Support multiple communication modes (RS232/485,Ethernet).Support usb download

Exterior Structure





Protection class: IP67(Whole machine)

Designed for harsh industrial environments!

Product Features

- Based on Linux system, which is stable, efficient, safe and reliable
- Industrial high-performance Cortex A7 processor up to 1GHz.dual core
- Diversified functional modules:multifunctional and control diversification
- Multiple interface embedding: RS485/USB download port/U disk port
- High-standard quality control:Qualified by FCC, ClassA and CE
- Protection class: IP67(Whole machine)

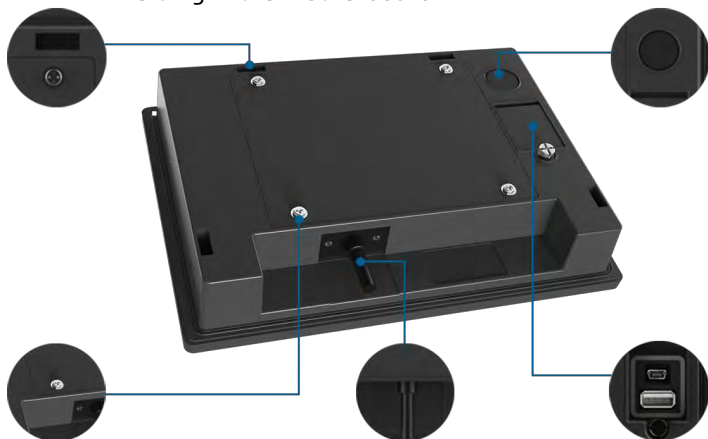
Exterior structure

Blind hole snaps

To prevent water vapor from immersing in the motherboard

Waterproof valve

Maintain external pressure balance, isolate water vapor



Waterproof screws

Corrosion resistance, oxidation resistance, no rust

Waterproof power communication connector

To ensure electricity safety



High-
definition
highlight

Smooth
operation

Visual
enjoyment

System
stability

Samkoon's high-definition HMI screen offers sharper visuals and increased brightness. With more refined image quality, users can clearly view every detail, enjoying a more comfortable and immersive visual experience—significantly enhancing human-machine interaction.

Product Features

- Based on Linux system, which is stable, efficient, safe and reliable
- Industrial high-performance Cortex A7 processor up to 1GHz.dual core
- High capacity 128MB FLASH+128MB DDR3, support external U disk storage
- Support multiple communication modes (RS232/422/485) , Support usb download、U disk update configuration
- Multiple security systems, safe and reliable
- Qualified by FCC, ClassA and CE
- Higher resolution, better picture quality



Samkoon hand-held teaching pendant is specially designed for applications such as industrial robots. Its ergonomic design allows for comfortable single- or dual-hand operation. Engineered for durability, it features industrial-grade protection, making it a reliable solution widely adopted in manufacturing, robotics, and other industrial sectors.

Product Features

- The structure is ergonomically designed, and can be easily held by one hand or both hands
- Industrial grade protection grade, high reliability, durable
- The back has a magnetic suction function, which can be sucked against the machine equipment or control cabinet
- Based on Linux system, which is stable, efficient, safe and reliable
- Industrial high-performance Cortex A8 processor up to 600MHz
- High capacity 256MB FLASH+512MB DDR3 , upport external U disk storage

STRUCTURE DESCRIPTION



PROGRAMMABLE LOGIC CONTROLLER



FA Series PLC | FAT Series PLC | PRO, MAX Series Bus PLC



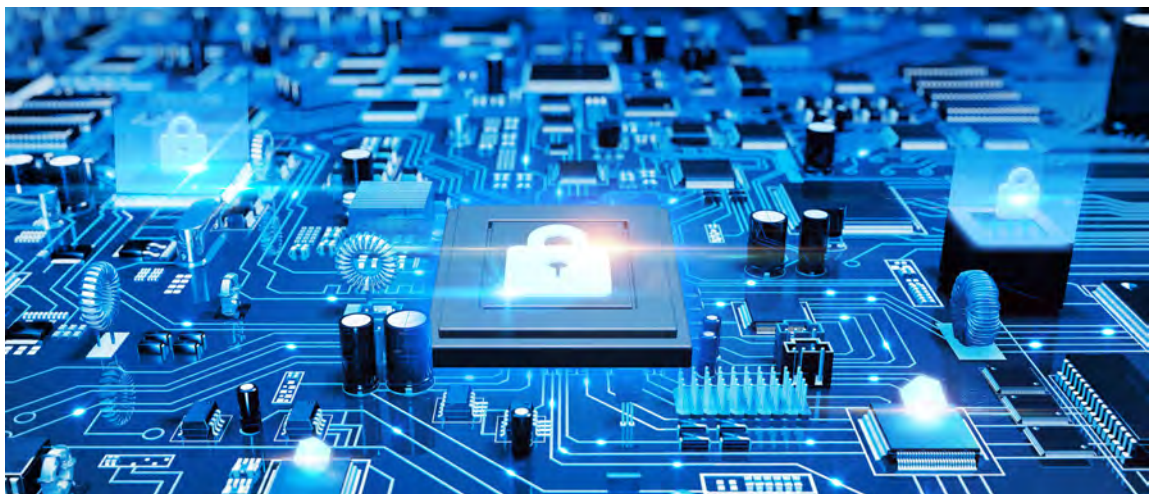


FAs series PLC is a new generation of PLC launched by Samkoon Technology after years of research, combined with years of practical experience in PLC projects and digging deeply into industry needs.

Product Features

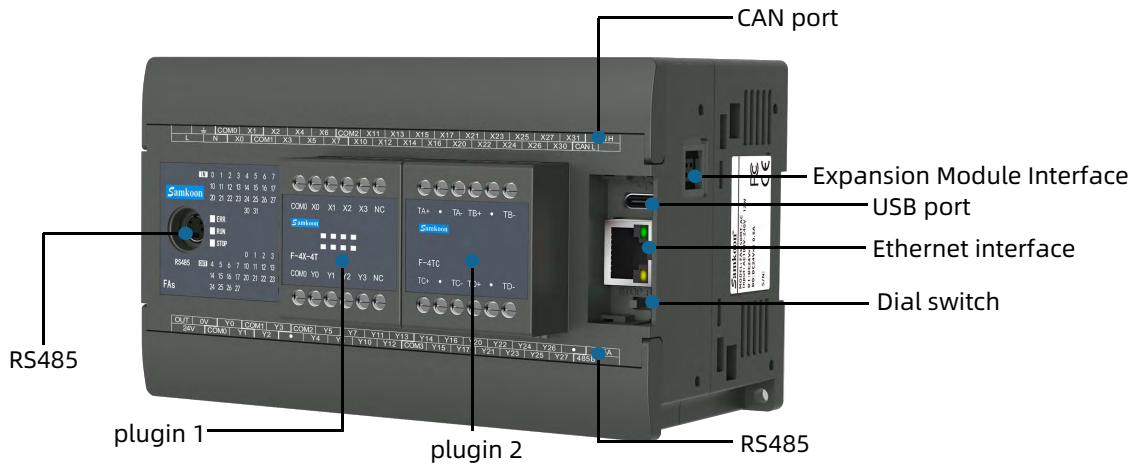
Powerful hardware and software configuration

- The hardware is based on the 32-bit micro-controller with Arm® Cortex®-M4 core, 200MHz main frequency, enhanced hardware anti-interference, stable response to grid power fluctuations, and ensuring continuous and efficient operation of the machine.
- Compiled underlying software guarantees a very short scan cycle, and its execution speed is more than 10 times that of interpreted PLC with the same configuration.



Abundant communication interface

- Ethernet interface, support Modbus TCP/IP protocol
- RS485 communication port, support Modbus RTU and free communication protocol
- 1 full speed USB download port
- Download, monitor and debug PLC from any communication port



Flexible and comprehensive performance

- Ethernet host supports 4-way high-speed pulse output, 8-way high-speed counting inputs, with powerful motion control function
- Powerful instruction function
- Based on the right expansion module of CAN communication, the maximum communication rate can reach 1Mbps, and 64 expansion modules can be expanded



Supports up to **64** expansion modules

- The expansion module can be used as an independent control unit to run the program



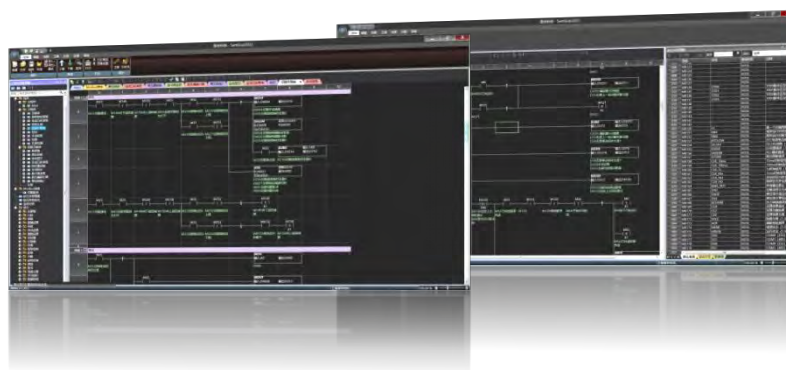
(S series extended modules)

- The front supports 2 small plug-in expansion modules, which can be combined with digital IO modules, analog modules, and temperature modules arbitrarily



The upgraded host software SamSoar2022

- Compile speed < 0.5 seconds, download speed < 3 seconds, and allow online editing of programs
- SamSoar2022 supports instruction list, function block diagram, SFC step ladder diagram programming, user UI is highly customized, contains rich PLC instructions, and function blocks can be written in C language
- The software adopts a compiled architecture to ensure that it cannot be decoded and the program cannot be cracked
- The software has rich compatibility with competing products, and can directly convert ladder diagram programs of the same category into display and control ladder diagrams
- PLC program can be downloaded through the display and control screen



(SamSoar2022)

Host naming rules



- ① FAs: FAs series PLC
- ② 16: Input/output in total 16 (8DI/8DO)
20: Input/output in total 20 (12DI/8DO)
22: Input/output in total 22 (12DI/10DO)
32: Input/output in total 32 (16DI/16DO)
40: Input/output in total 40 (22DI/18DO)
50: Input/output in total 50 (26DI/24DO)
66: Input/output in total 66 (34DI/32DO)
- ③ MR: Relay output
MT/HT: Transistor output
- ④ A: AC power supply
- ⑤ C: Compiled type
- ⑥ E: With Ethernet port
N: Without Ethernet port

Right extension module naming rules



- ① S: S series Expansion Module
- ② Default: Main module with high-speed count/pulse output (4-way)
E: Without high-speed counter/pulse output
- ③ 8X: 8 Digital inputs
4TC: 4-Way thermocouple input
4PT: 4-Way temperature measurement
4AI: 4 Analog inputs
- ④ 8T: 8 Digital outputs
8R: 8-Channel relay output
2AO: 2 Analog outputs
- ⑤ C: With CAN port
M: Can only be used as a host, not as an expansion module
Default: Support RS485 communication

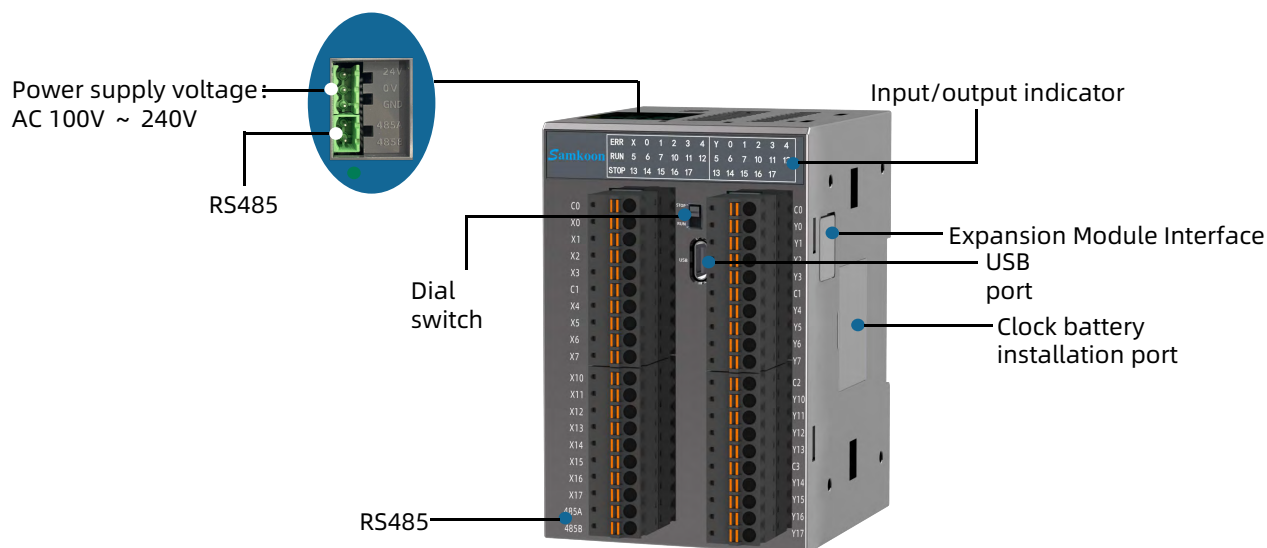
Note: S series expansion module is applicable to FAs and FAT series PLC.

Plug-in extension naming rules



- ① F: F series Plug-in Extension
- ② 8X: 8 Inputs
4TC: 4-Way thermocouple input
4PT: 4-Way temperature measurement
2AI: 2 Analog inputs
- ④ 8T: 8 Outputs
1AO: 1 Analog outputs
4R: 4-Channel relay output

Note: F series plug-in expansion is applicable to FAs series PLC, GT series all-in-one machine.



Product Features

- Ethernet host supports 4-way high-speed pulse output, 4-way high-speed counting input, with powerful motion control function
- Based on the right expansion module of CAN communication, the maximum communication rate can reach 1Mbps, and 64 expansion modules can be expanded
- Fast speed (compiled architecture executing the native code directly, more than 10 times faster than interpreted architecture)
- Fine security (upload, download, monitor the password, upload forbidden, file code, subprogram password, Function performance block code)
- Abundant communication interface (ethernet interface, support Modbus TCP/IP protocol; RS485 communication port, support Modbus RTU and free communication protocol; 1 full speed USB download port)

Naming rules



① FAT: FAT series PLC

④ D: DC power supply

② 16: Input/output in total 16 (8DI/8DO)
32: Input/output in total 32 (16DI/16DO)

⑤ C: Compiled type

③ MT: Transistor output

⑥ E: With Ethernet port
N: Without Ethernet port



Product Features

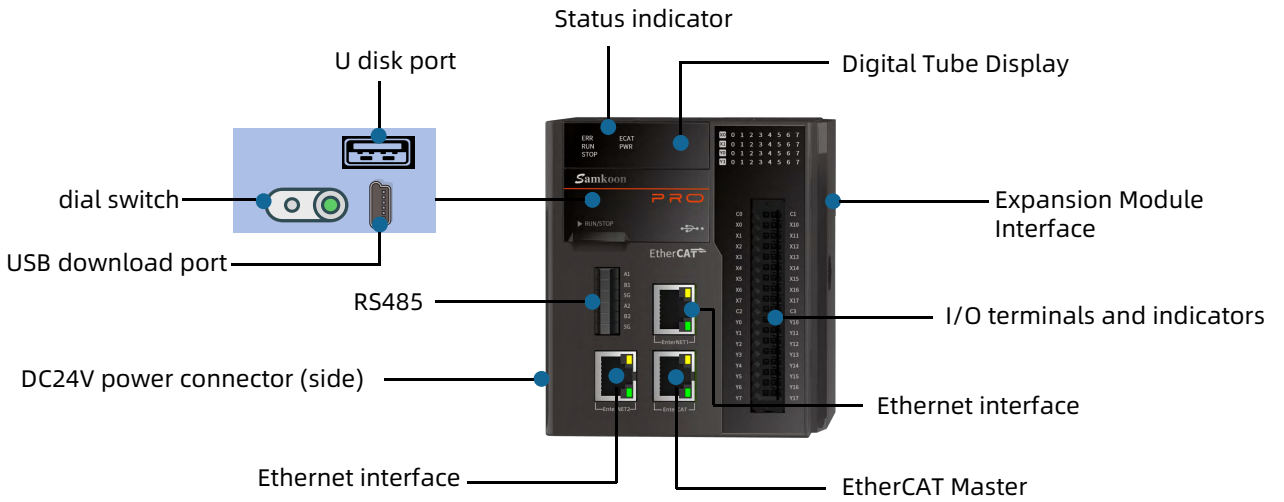
The PRO series bus-type PLC is an open motion control platform that integrates high-speed pulse output, high-speed input, and EtherCAT master functionality into one unit. The key features supported are as follows:

1. Built-in 32-point IO, while supporting local 8-axis high-speed pulse output and 16-way high-speed counting;
2. Supports EtherCAT nanosecond real-time network master protocol stack with a minimum setup system cycle of 500us;
3. Supports debugging and on-download interfaces including USB, U disk, Ethernet network port, RS485;
4. Supports PLC axis control parameterized configuration and online debugging interface, including limit, zero point and pointing functions;
5. Supports ladder diagram-based motion control MC instructions of IEC61131-3;
6. Supports mapping programming for large-scale hardware configuration, reducing the difficulties of field wiring and line changing;
7. Supports electronic gear, multi-axis interpolation, electronic cam and other functions.

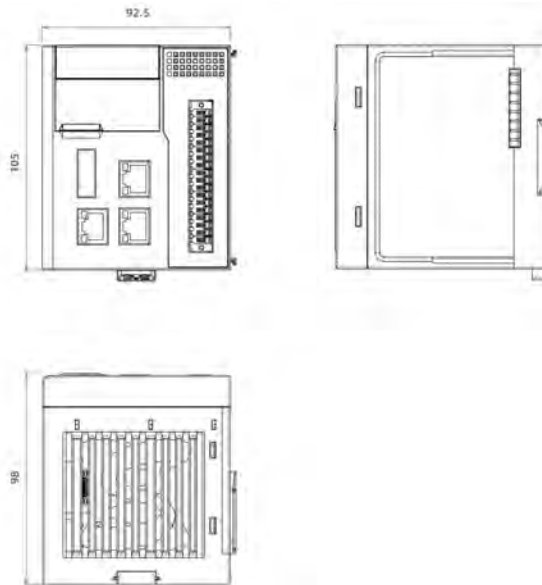
The MAX series bus-type PLC offers enhanced motion control capabilities on top of the full functionality of the PRO series, featuring the following specific functions:

1. Secondary development supports open register, compiled PLC and G code programming methods, which can be flexibly selected;
2. Supports spatial straight lines, circular arcs, spirals, spline curves, NURBS curve interpolation;
3. Supports smooth transition of trajectory speed and continuous small line segment G64 interpolation;
4. Supports pitch error compensation, backlash compensation and tool radius compensation function;
5. Supports axis parameterized configuration management, task management and alarm management;
6. Supports Z pulse return to zero, secondary return to zero and other return to zero mode;
7. Supports variable speed during the movement, multiplier settings, start pause and other functions;
8. Supports G code 3D trajectory, ladder offline and online simulation functions;
9. Supports CAD, text, picture import to generate G code function.

Port description



Product Size



92.5x 105x 98 (mm)

HMI+PLC ALL -IN-ONE



GT Series All-in-one

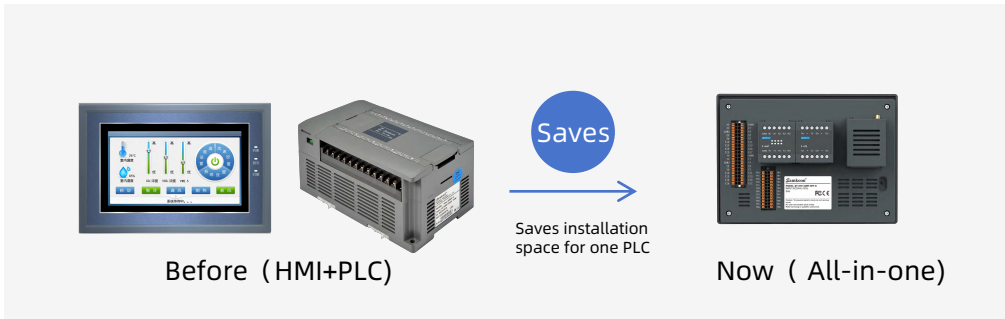




Product Features

Compact and space-saving

- To achieve the same function, 1 HMI + 1 PLC was needed in the past, but now only 1 all-in-one machine is needed



The combination of HMI + PLC functions, a new operating experience

- Transistor/relay output
- Screen configuration, ladder diagram programming integrated
- Maximum 4 channels high-speed calculation, maximum support of 4 channels of 100KHz pulse output
- Plug-in expandable up to 8 temperature inputs, supporting thermocouple/PT100
- I/O plug-in expandable up to 16 IO points



The back supports 2 small plug-in expansion modules, which can be combined with digital IO modules, analog modules, and temperature modules arbitrarily

Featuring a sleek new appearance and enhanced performance, the system achieves seamless integration of HMI and PLC for a more efficient and user-friendly experience.



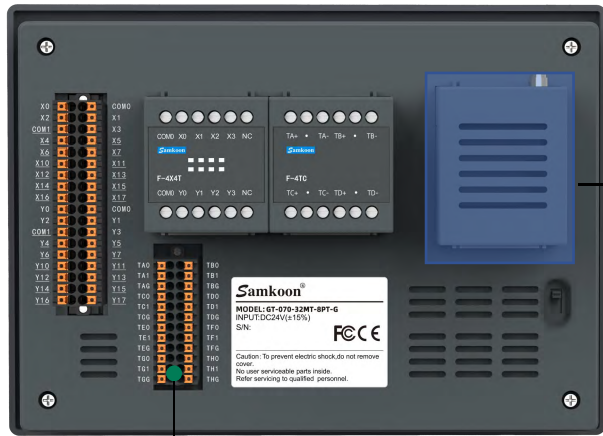
4.3 inch



7 inch

Abundant interfaces and powerful communication capabilities

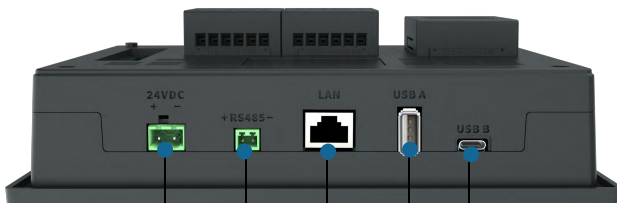
- Support multiple communication modes (RS485, ethernet, WIFI, 4G)
- Support usb download, U disk update configuration



8 channels PT100



Samkoon IoT expansion module, with WIFI mode and 4G mode selection, supports display control cloud platform, plug and play.



DC 24V

RS485

Ethernet Interface

USB

U disk port

Naming Rules



- | | |
|---|---|
| <p>① GT: GT Series HMI+PLC All-in-One</p> <p>② 043: 4.3"
070: 7"</p> <p>③ 16: Input/out put in total 16
23: Input/out put in total 23
26: Input/out put in total 26
30: Input/out put in total 30
32: Input/out put in total 32</p> | <p>④ MR: Relay output
MT: Transistor output
M: Including relay output and transistors output</p> <p>⑤ TC: Thermocouple input
PT: RTD input
AI: Analog input
AIO: Analog input/ output</p> <p>⑥ G: With network module</p> |
|---|---|

Naming Rules



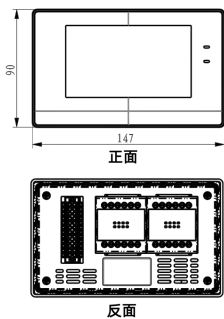
- ① GT: GT Series All-in-one(HMI+PLC)
- ② 043: 4.3"
070: 7"
- ③ 16: Input/out put in total 16
23: Input/out put in total 23
26: Input/out put in total 26
30: Input/out put in total 30
32: Input/out put in total 32
- ④ MR: Relay output
MT: Transistor output
M: Including relay output and transistors output
- ⑤ TC: Thermocouple input
PT: RTD input
AI: Analog input
AIO: Analog input/ output
- ⑥ G: With network module

Plug-in extension naming rules

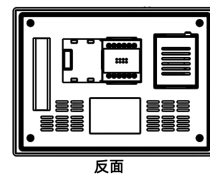
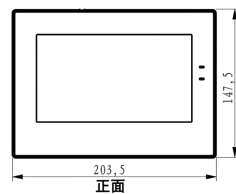


- ① F: F series Plugin Extension
- ② 8X: 8 Inputs
4TC: 4-Way thermocouple inputs
4PT: 4-Way temperature inputs
2AI: 2 Analog inputs
- ④ 8T: 8 Outputs
1AO: 1 Analog outputs
4R: 4-Channel relay output

Product Size



4.3 inch



7 inch

Servo Drive



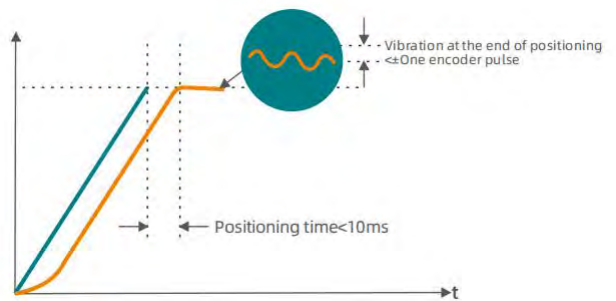
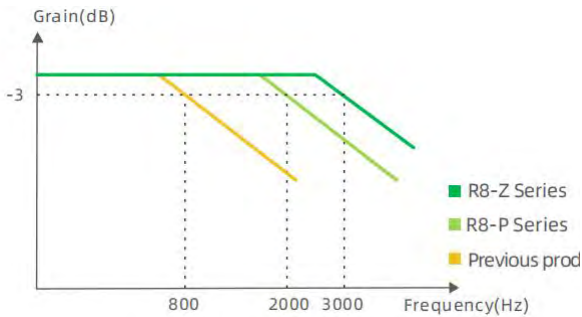
R8 Series Servo Drive | HK Series Servo Motor



Product Features

Fast response

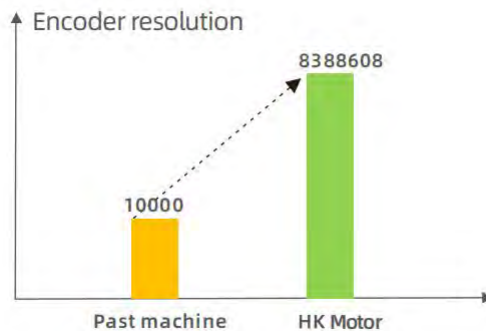
- Current sampling up to 16kHz
- Pulse-type velocity loop bandwidth up to 1.3kHz
- Bus-type speed loop bandwidth up to 1.6kHz
- High response control based on torque feedforward can reduce the position adjustment time to 5-6ms



Note: The speed loop bandwidth is the frequency of the fastest speed command to which the servo system can respond.

High precision

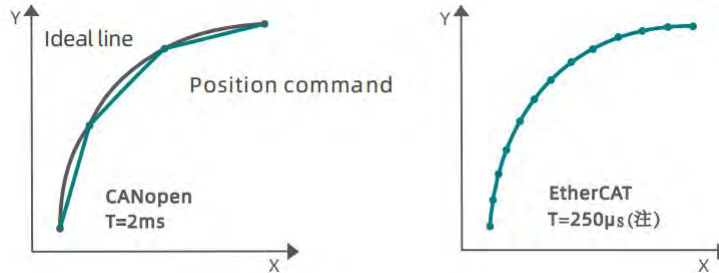
- Supports 17 bit single-turn/multi-turn absolute encoding
- Supports 23 bit single-turn/multi-turn absolute encoding
- Multiple turns can memorize the absolute position of 65, 535 turns



Excellent EtherCAT bus performance

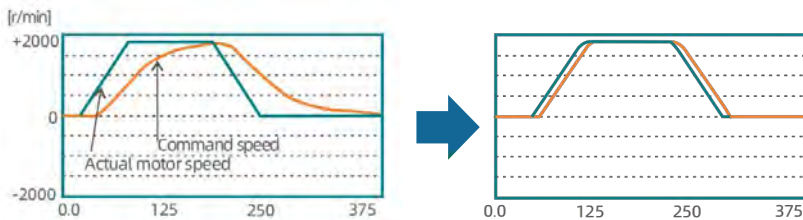
- 2x100Mbps (full duplex)
- Simple wiring
- Refreshing time: 100 axes x 1us/axis transmission delay = 0.1ms:
- Supports 1ms synchronization period, less than 1ms can support 250μs integer multiples of the same period

Provides control accuracy through high-speed interpolation control



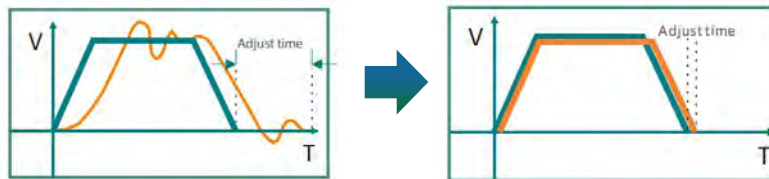
Easy to debug

- Self-adjustment of rigidity table parameters + feedforward to improve response



Rigidity meter parameter adjustment + feedforward

- Offline/online inertia identification optimization response curve



Inertia inaccuracy

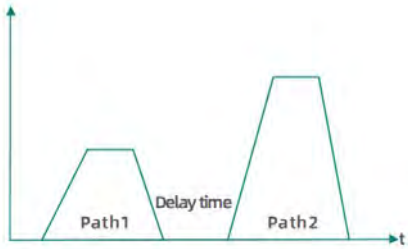
- Mechanical property recognition + notch filter to suppress vibration



High flexibility of mechanical characteristics

Internal multi-segment position

- Provides 16 sections of internal position, which can plan multi-point continuous motion
- Change point parameters during operation
- Supports relative position and absolute position
- DI enable control
- With the origin return, some basic positioning actions can be realized



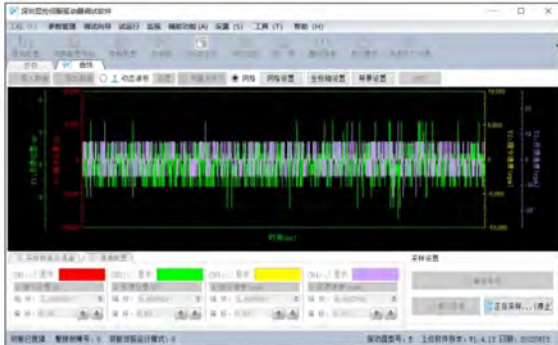
Upper software

- Parameter modification, importing and exporting
- Real-time capture of waveform data
- Alarm information is clear at a glance
- Inertia identification is simple and easy to use
- Accurate and effective mechanical analysis

Parameter configuration



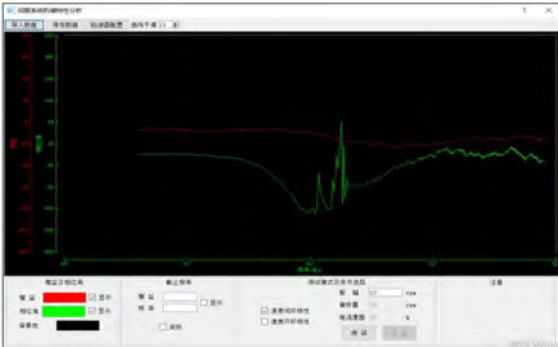
Virtual oscilloscope



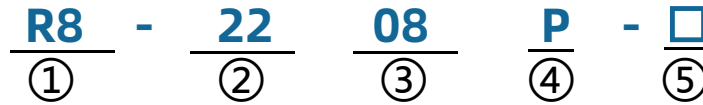
Alarm records



Mechanical characteristics



Naming Rules



① Product Line

R8: R8 Series Servo Drive

② Rated voltage

22: Single/three-phase 220V
38: Three-phase 380V

③ Rated power

02: 200w
04: 400w
08: 800w
10: 1.0kw
15: 1.5kw
22: 2.2kw
26: 2.6kw
30: 3.0kw

④ Communication type

P: Pulse type
Z: EthterCAT bus type
C: CANopen

⑤ Non-standard code

N: Standard products
S: Condensed version
B: Dynamic braking
other: Nonstandard product

Servo Drive Models

Model	Input voltage	Current	Power	Control method	Encoder support	Built-in braking resistor	Dynamic braking	Size (mm)	Weight (kg)
R8-2204P-N	Single-phase 220VAC	2.8A	400W	Pulse analog quantity/RS485	Tamagawa 17/23bit	NO	NO	50x160x173	1
R8-2204P-B	Single-phase 220VAC	2.8A	400W	Pulse analog quantity/RS485	Tamagawa 17/23bit	NO	YES	50x160x173	1
R8-2204Z-N	Single-phase 220VAC	2.8A	400W	EthterCAT bus	Tamagawa 17/23bit	NO	NO	50x160x173	1
R8-2204Z-B	Single-phase 220VAC	2.8A	400W	EthterCAT bus	Tamagawa 17/23bit	NO	YES	50x160x173	1
R8-2208P-N	Single-phase 220VAC	5.5A	750W	Pulse analog quantity/RS485	Tamagawa 17/23bit	YES	NO	50x160x173	1
R8-2208P-B	Single-phase 220VAC	5.5A	750W	Pulse analog quantity/RS485	Tamagawa 17/23bit	YES	YES	50x160x173	1
R8-2208Z-N	Single-phase 220VAC	5.5A	750W	EthterCAT bus	Tamagawa 17/23bit	YES	NO	50x160x173	1
R8-2208Z-B	Single-phase 220VAC	5.5A	750W	EthterCAT bus	Tamagawa 17/23bit	YES	YES	50x160x173	1
R8-2210P-S	Single-phase 220VAC	5.5A	1000W	Pulse analog quantity/RS485	Tamagawa 17/23bit	YES	NO	50x160x173	1.5
R8-2210Z-S	Single-phase 220VAC	5.5A	1000W	EthterCAT bus	Tamagawa 17/23bit	YES	NO	50x160x173	1.5
R8-2210P-N	Single-phase / three-phase 220VAC	6.4A	1000W	Pulse analog quantity/RS485	Tamagawa 17/23bit	YES	NO	57x199x182	1.5
R8-2210Z-N	Single-phase / three-phase 220VAC	6.4A	1000W	EthterCAT bus	Tamagawa 17/23bit	YES	NO	57x199x182	1.5
R8-2215P-N	Single-phase / three-phase 220VAC	8.4A	1500W	Pulse analog quantity/RS485	Tamagawa 17/23bit	YES	NO	57x199x182	1.5
R8-2215Z-N	Single-phase / three-phase 220VAC	8.4A	1500W	EthterCAT bus	Tamagawa 17/23bit	YES	NO	57x199x182	1.5
R8-2226P-N	Single-phase / three-phase 220VAC	12.0A	2600W	Pulse analog quantity/RS485	Tamagawa 17/23bit	YES	NO	90x160x181	2
R8-2226Z-N	Single-phase / three-phase 220VAC	12.0A	2600W	EthterCAT bus	Tamagawa 17/23bit	YES	NO	90x160x181	2
R8-3830P-N	Three-phase 380VAC	12.0A	3000W	Pulse analog quantity/RS485	Tamagawa 17/23bit	YES	NO	90x160x181	2
R8-3830Z-N	Three-phase 380VAC	12.0A	3000W	EthterCAT bus	Tamagawa 17/23bit	YES	NO	90x160x181	2

Product specifications

Voltage class		Mode R8-22/38□□P/Z-N/B/S						
Power		04	08	10	15	26	30	
EtherCAT Specifications	Physical layer	100BASE-TX						
	Transmission rate	2X100Mbps						
	Communication protocol	CoE: CANopen over EtherCAT						
	Synchronous mode	DC Synchronous mode(SYNCO) FreeRUN						
	Synchronous jitter	<1US						
	Communication object	SDO (Mailbox data)						
		PDO (Process data)						
Control mode	CSP (Cycle Synchronized Position Mode) 1ms CSV (Cycle Synchronized Velocity Mode) 500us CST (Cycle Synchronized Torque Mode) 125us PP (Profile Position Mode) 1ms PV (Profile Velocity Mode) 500us PT (ProfileTorque Mode) 125us HM (Homing Mode) 1ms							
other	Control mode	PWM sine wave vector control						
	Regenerative braking	Built-in, external optional						
	Feedback method	Absolute encoders						
	Control mode	Position/speed/torque						
	Control inputs	4 configurable input terminals (opto-isolated), functions can be configured as: servo enable, proportional control, forward drive disable, reverse drive disable, alarm clear, forward torque limit, reverse torque limit, position deviation clear, home return trigger, home return reference point, and 32 other input signals						
	Control output	4 configurable output terminals (opto-isolated), functions can be configured for 20 signal outputs: speed consistency, motor rotation detection, servo ready, torque limit detection, brake interlock, encoder Z pulse, overtravel, servo enable motor excitation, home return completion, torque detection, etc.						
	Encoder signal output	Signal type	A, B, Z differential output, Z signal open collector output					
		Crossover ratio	Parameter setting					
	location	Input frequency	Differential input ≤500kpps, single-ended input ≤200kpps;					
		Command mode	Direction+pulse sequence, CW+CCW pulse sequence, two-phase A/B quadrature pulse; internal position command					
		Electronic gear ratio	Numerator: 1 ~ 1073741824 Denominator: 1 ~ 1073741824					
	Speed	Mapping command input	-10~+10V Input					
		Command acceleration and deceleration	Parameter setting					
		Command source	Internal speed commands, analog commands					
Torque	Analog command input	-10~+10V Input						
	Speed limit	Parameter setting						
	Command source	Internal torch command, analog command						
Special features	Automatic tuning, home return, gain switching, mechanical resonance trap filter, alarm recording, JOG operation, load inertia recognition, etc.							
Monitoring function	Speed, current position, position deviation, motor torque, motor current, command pulse frequency, etc.							
Protection function	Over-voltage, under-voltage, over-current, overload, abnormal encoder, over-positioning, etc.							
Display function	Digital tube display							
Characteristics	Speed frequency response	≥1200Hz						
	Velocity volatility	≤±0.03% (Load 0 ~ 100%) ≤±0.02% (Power supply -15 ~ +10%)						
	Ratio of speed regulation	1:5000						



Servo Motor Naming Rules

80 KH - A 024 30 - C S 2 A 2
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① Flange size (unit: mm)

- 40: 40x40
- 60: 60x60
- 80: 80x80
- 130: 130x130
- 180: 180x180

④ Rated torque

- 006:0.6N.m
- 013:1.3N.m
- 024:2.4N.m
- 190:19N.m

⑦ Encoder category

- S: Single lap
- M: Multi-lap

⑩ Optional parts

- 1: Excluding optional parts
- 2: With oil seal
- 3: With oil seal and electromagnetic brake with oil seal

② Product Line

HK: HK Series motor

⑤ Rated speed

- 15: 1500rpm
- 20: 2000rpm
- 30: 3000rpm

⑧ Input voltage

- 2: AC 220V
- 3: AC 380V
- 4: AC 48V

③ Encoder type

- A: Absolute 17-bit encoding
- B: Absolute 23-bit encoding

⑥ Encoder category

- C: Magnetic Editor
- L: Light Editor

⑨ Shaft end structure

- A: Flat key, key width 6mm
- B: Flat key, key width 5mm
- C: Flat key, key width 4mm
- D: Flat key, key width 3mm

M9 Servo Drive+ Control All-in-One



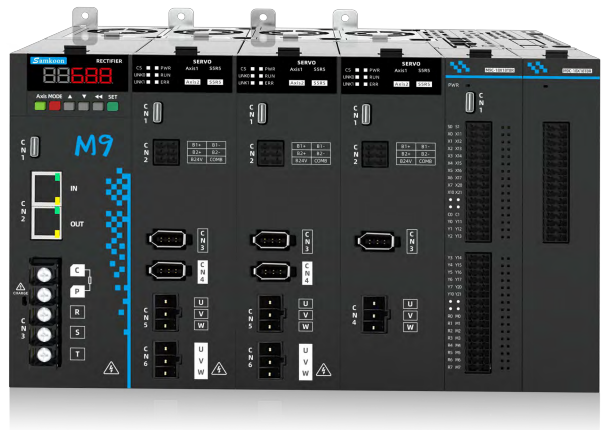
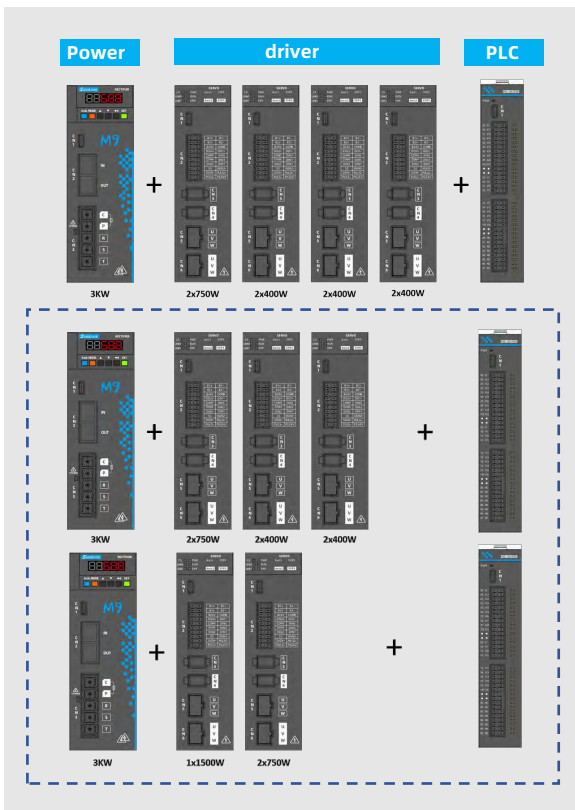
M9 Series

The M9 controller features a built-in EtherCAT master, making it easy to expand with additional modules. It offers optional power supply modules of 3kW or 5kW. The driver module supports two motors (400W or 750W each), or one motor (up to 1.5kW). It also includes a built-in brake relay and supports debugging via a Type-C USB interface.

Product Features

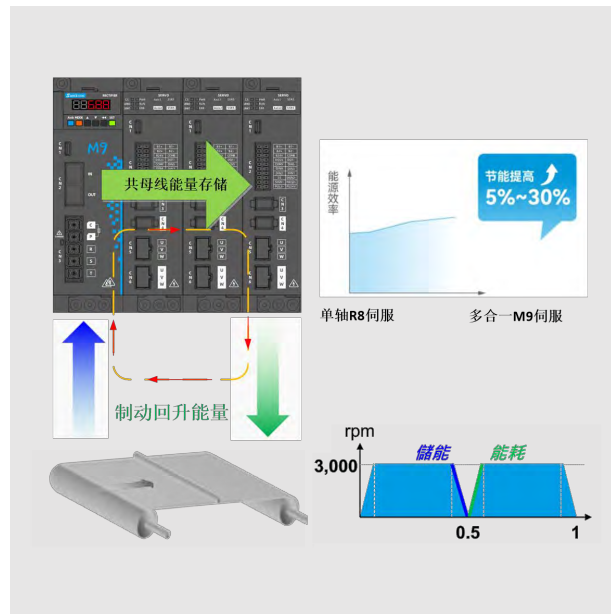
Modular Design

- a. Modular design, easy assemble as requirement;
- b. 1 power module supports up to 4 driver modules, and each driver module can drive up to 2 motors;
- c. Can be paired with EtherCAT PLC module and remote IO expansion module



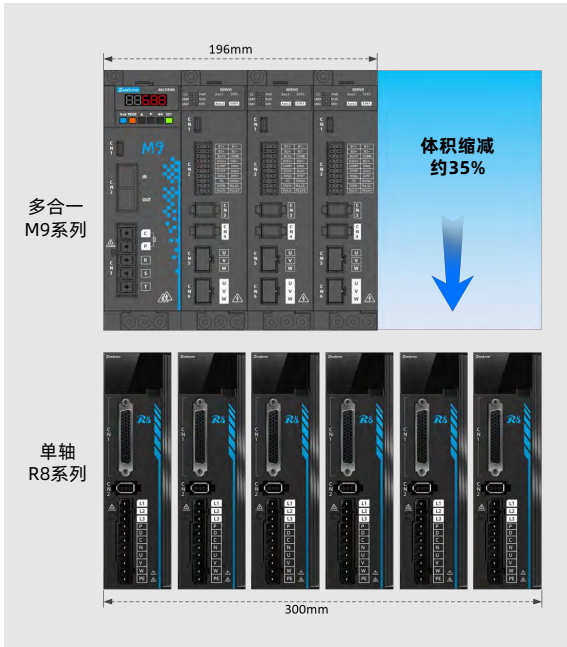
Common DC Bus

- a. Common DC bus, energy feedback and energy consumption form a dynamic balance, saving up to about 30% of electricity
- b. During deceleration braking process, the common DC bus voltage rises, and the energy is stored in the power module
- c. During acceleration, the energy in the power module is consumed, and the common DC bus voltage drops
- d. If an external braking resistor needs to be added, one is shared by four axes, reducing the installation space of the cabinet and reducing heat generation



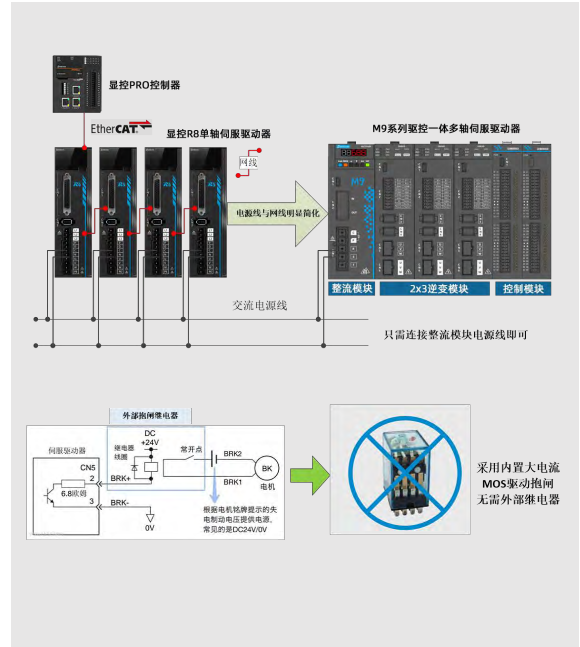
Compact Design

- a.Small size, high power density, one driver module can drive 2 motors;
- b.6-axis driver reduces volume by 35%, saving space;
- c.No need to leave heat dissipation space between modules



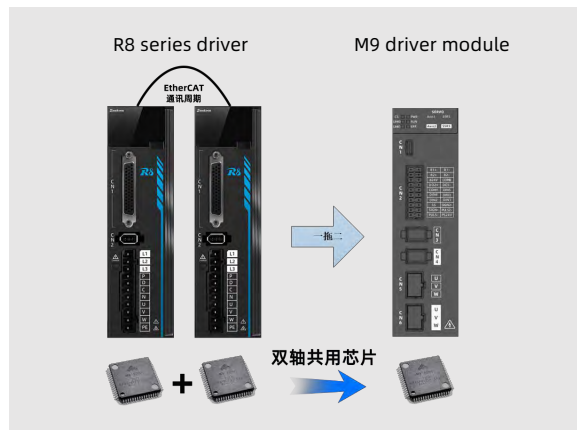
Simplified Wiring

- a.Built-in MOS control braking on and off, braking wiring is simpler, no need for external relay
- b.Matching EtherCAT bus PLC module, simplify power and network cable, more reliable connection, more concise layout



Simpler by Design, More Reliable in Performance

- a. Two-axis control shares a single chip, significantly reducing overall system cost
- b.Low communication delay, better dual-axis interpolation, circle following effect, better gantry synchronization performance
- c.MCU main frequency of 600MHz, with dedicated peripherals, high loop refresh frequency, and stronger performance
- d.Opt hardware design, low leakage current of multi-axis servo



Name Rules

M9N - 22 - 0808 Z □

Mark	module type
R	power module
N	driver module

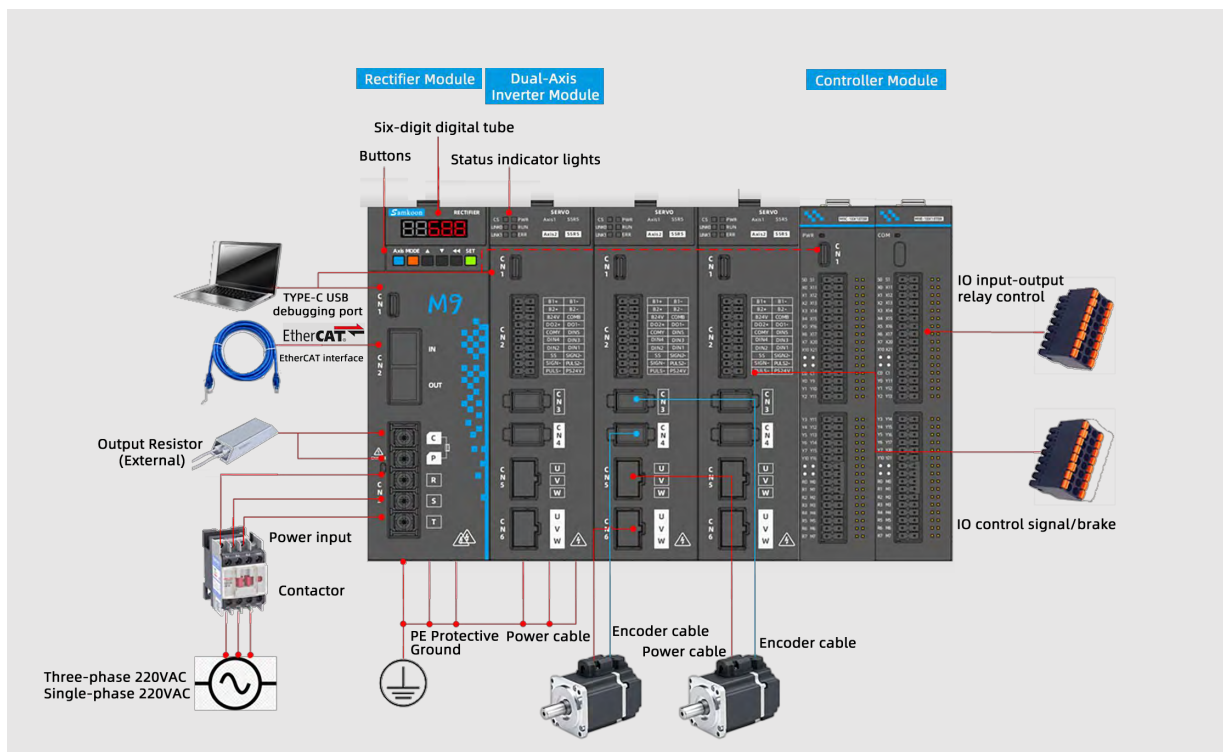
mark	power voltage
22	single/three phase 220V
38	three phase 380V

mark	type
N	standard
S	special
B	Xxx
other	None standard

mark	communicate type
P	pulse
Z	EtherCAT
C	CANopen

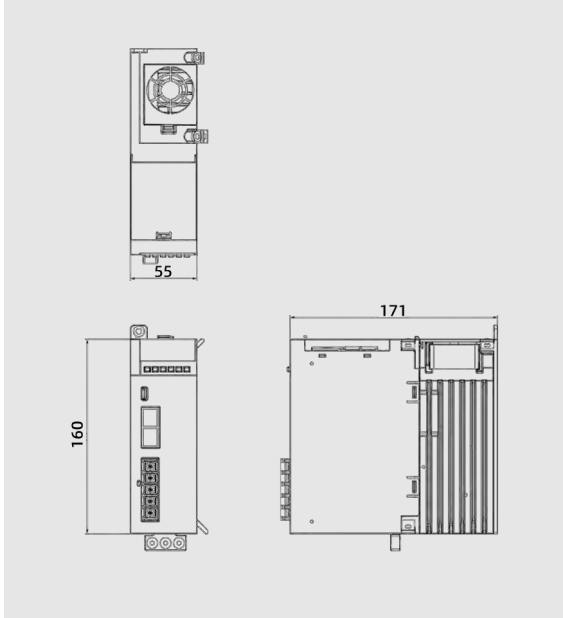
Mark	output
02	200w
04	400w
08	800w
10	1000w
15	1500w

Complete System Wiring Diagram

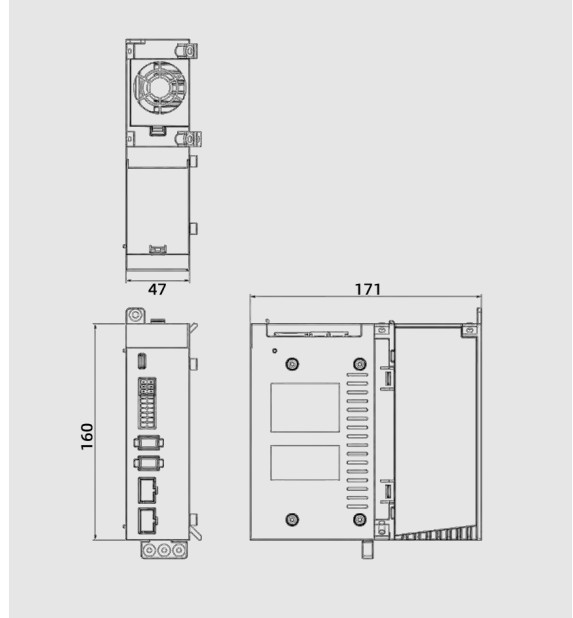


Dimensional drawings of each module

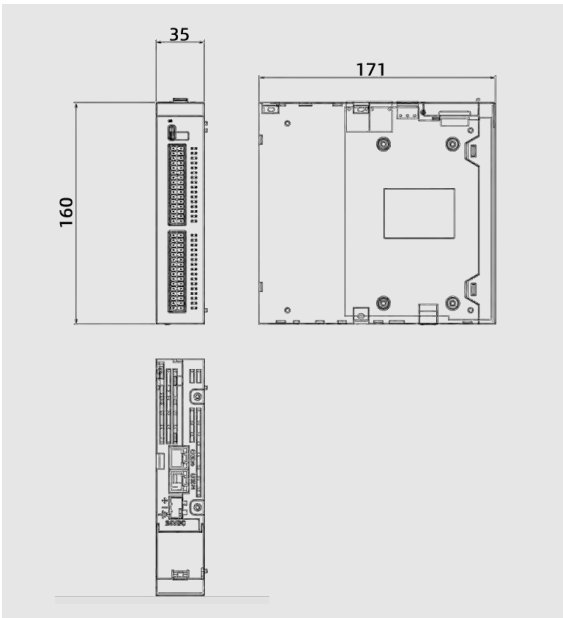
Power module size



Driver module size



PLC module size



Industrial Applications



Truss manipulator



Injection molding robotic arm



Dispensing Equipment



Packaging Machinery

Based in China, Serving the world

With nearly 20 years of expertise in industrial automation, Samkoon has established a strong global presence. Our products are exported to over 30 countries and regions, serving both domestic and international leading enterprises across diverse industries. We are committed to delivering high-quality products and services to customers of all scales.



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