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SINEE

Stock code
688395

Motion Controller Selection Guide

Automated production and life

Shenzhen Sine Electric Co.,Ltd

High integration

Compacted size

Perfect protection

Stable and reliable

SINEE

CONTENTS

CONTENTS

1 Comapny Profile 01

2 SMC300 Series Motion Controller 02/07

3 SMC200 Series Small PLC 08/13

4 SMC390 High Performance Medium and Large Motion Controller 14/21

5 HMI Series 22/27

SINEE

Since SINEE establishment in 2003, Shenzhen Sine Electric Co., Ltd. (abbrevi- ation: SINEE) has focused on the research and development, production and sales of motor drive and control system products in the field of industrial automation. With the vision of "automated production and life", SINEE continues to Provide valuable products and services to users. The company was listed on the Shanghai Stock Exchange's Science and Technology Innovation Board in 2021 (stock code: 688395), and currently has R&D, production and service bases in Shenzhen, Wuhan, Suzhou and Wuxi.

Automated Production and Life

Company has key core technology platforms such as high-performance variable frequency vector control technology, high-precision servo drive technology, embedded computer control technology, and power electronics application technology. SINEE mainly provides frequency converters, integrated special machines, servo system products and system solutions for mechanical equipment manufacturers and electronic control system integrators.

Vision
Automated production and life

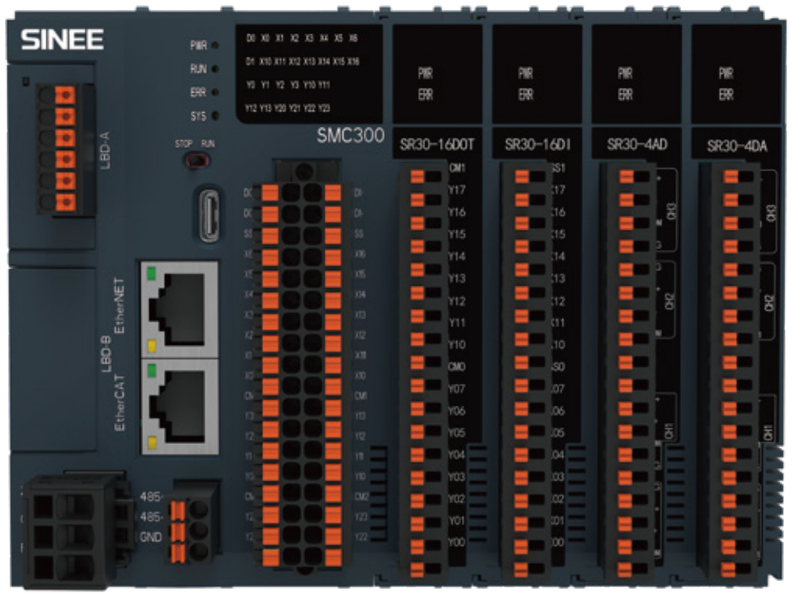
Business
Motor drive and control system solution provider

Customers
Mechanical equipment manufacturers, electronic control system integrators, distributors

Competitiveness
Industry market solutions and customer customization

Business philosophy
Customer-centric, achieving simultaneous growth of own value and customer value

SMC300 Series Motion Controller



SMC300 medium motion controller adopts IEC61131-3 programming language system and supports PLCopen standard programming language. Adopting a rack layout, each CPU supports local expansion of 16 expansion modules, and the CPU can be remotely expanded through EtherCAT.

Fast&Convenient
Fast execution speed + convenient operation

Multiple Bus
Standard Ethernet,compatible with multiple communication protocols

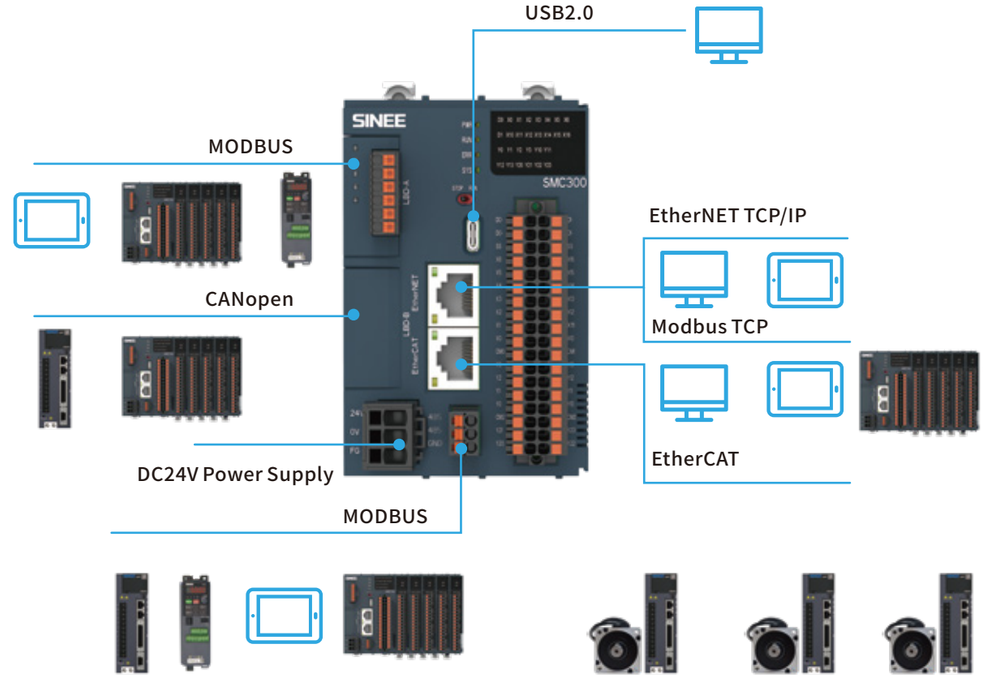
Superior Performance
32-axis bus control to achieve complex processes

Flexible Expansion
Expansion modules+optional accessories to meet various usage scenarios

Easy Development
Multiple programming languages, easy to write complex logic

Application shortcuts
Simple and easy to operate, reducing user learning costs and operating difficulty

Convenient Connectivity



Flexible Expansion

The left side supports max simultaneous insertion

2 expansion modules

RTC、CANopen、485/232、DI、DO

The right side supports max simultaneous insertion

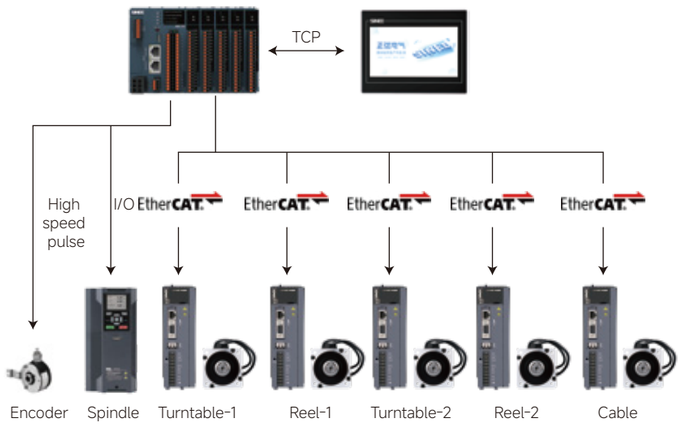
16 expansion modules

DI、DO、AI、AO、TC

Cable industry taping machine system solution

The taping machine is driven by a motor, which drives the rotating parts to make the taping reel rotate at a constant speed, and evenly wraps the tape in a spiral or overlapping shape on the cable moving forward at a constant speed, thereby realizing the taping operation of the cable. In this process, there is usually a tension control system to ensure that the tape maintains appropriate tension during the winding process, so that the tape is tightly and evenly wrapped on the cable surface.

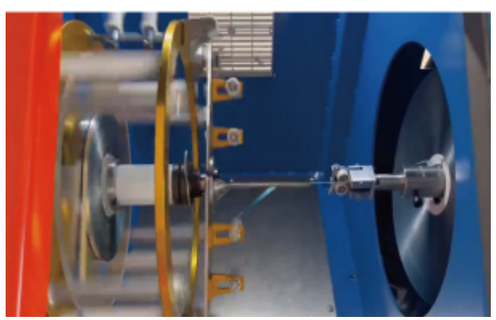
System Solution



Electronic control configuration	
PLC	SMC300-008E
Modules	SR30-16DI*1 SR30-16DOT*1 SR30-4DA*1
HMI	WK2100-31ST-P1Q1C48
Frequency Inverter	EM760-4R0G-3B*1 EM730-1R5-3B*4
Servo Drives	EA190E-2R5*1, EA190E-4R8*2, EA300E-8R5*2
Servo Motor	SES06-0R4-30-2FBY*1 SES08-0R7-30-2HBY*2 SES13-1R8-30-3FBY*2

Solution Advantages

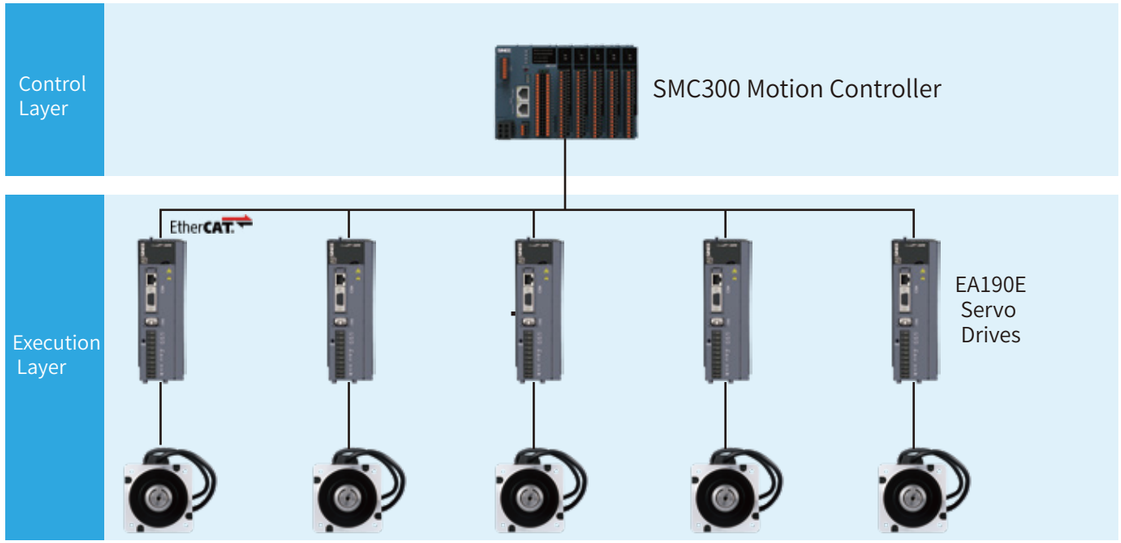
- The turntable speed is stable, and the speed fluctuation from 100-1500rpm is within 1rpm
- The tape tension is stable, and the tension fluctuation is less than 3%.
- From acceleration to full speed, the wrapping point has almost no drift
- Pitch stability
- EtherCAT bus control, high-speed communication, simple wiring
- Simple operation, one-button start
- Complete alarm mechanism: belt break alarm, wire break alarm, door open alarm, pallet anti-collision, servo alarm, inverter alarm, cable limit



Logistics industry Single piece separation system solution

The single-piece separation equipment is part of the self-service logistics sorting system. It can pre-process the parcels and automatically separate and intelligently arrange the scattered, parallel, and different-sized parcels, so as to arrange the parcels into single pieces with uniform spacing.

System Solution



Solution Advantages

Load capacity up to 70KG	99.9%	6K-10K/Hour
Heavy Separation Burden	High separation success rate	High separation efficiency

Easy to install:
EtherCat communication is used for easy wiring, which improves assembly efficiency and saves debugging time

Easy maintenance:
When a device fails, the faulty unit and the cause of the failure can be accurately located. If a single drive fails, the entire line will not be shut down, reducing maintenance time

Wide adaptability:
Supports TCP free protocol, the complete system is basically compatible with all visual brands on the market

SMC300 Series Motion Controller---Naming Rule and Specification

SMC ① 300 ② - 032E ③④ - XX ⑤

① Product Categories		② Series		③ Axis		④ Instruction Type		⑤ Non-standard customization
SMC	Motion Controller Host	300	300 Series	032	32 Axis	E	EtherCAT	

Model			SMC300-006E	SMC300-008E	SMC300-012E	SMC300-016E	SMC300-032E
Programming capacity	Program data capacity		20MB				
	Power-off retention capacity		120KB				
Programming language			IL、SFC、CFC、FBD、LD、ST				
Axis Capacity	Number of pulse axes		—				
	Total number of axes		6	8	12	16	32
Right Extension	Max right extension amount		16				
Optional Accessories	Max number of optional cards		2				
Host IO Point	Input	Points	12 points normal input + 4 points high speed input				
		Function	4-way 200K high-speed pulse input (AB phase, pulse + direction, single pulse)				
	Output	Points	8 points normal output				
		Function	—				
USB		Number of interfaces	1 Way USB2.0 TYPE-C				
		Support Functions	Firmware Upgrade				
Power supply			DC24V				
Serial Port	RS485	Number of interfaces	Max 3 channels: 1 channel built into the host, 2 more channels can be added by installing optional accessories				
		Support Protocol	Modbus master and slave; free protocol				
		Max number of slaves	125				
		Baud rate bps	9600、19200、38400、57600、115200				
	RS232	Number of interfaces	Maximum 2 channels: The host does not support it, and it can be expanded to 2 channels by installing optional accessories				
		Support Protocol	Modbus master and slave; free protocol				
		Max number of slaves	1				
		Baud rate bps	9600、19200、38400、57600、115200				
CAN	Number of interfaces		1 Way				
	Support Protocol		CANopen Master Protocol				
EtherNet	Number of interfaces		1 Way				
	Function		Max number of clients (masters): 1; Max number of servers (slaves): 125				
	Data transfer speed		10M/100Mbps				
	Total number of TCP connections		16				
	Modbus TCP		Max number of clients (masters): 1; Max number of servers (slaves): 125				
	Socket		Maximum number of connections: 16 (UDP+TCP)				
	Cables		Standard Industrial Ethernet Communication Cable				
EtherCAT	Topology		Linear				
	Transmission medium		Standard EtherCat communication cable				
	Max transmission distance between nodes		100M				
	Max number of slaves		6	8	12	16	32
	Communication cycle		Minimum 2ms				
	Support Protocol		EtherCat Master				

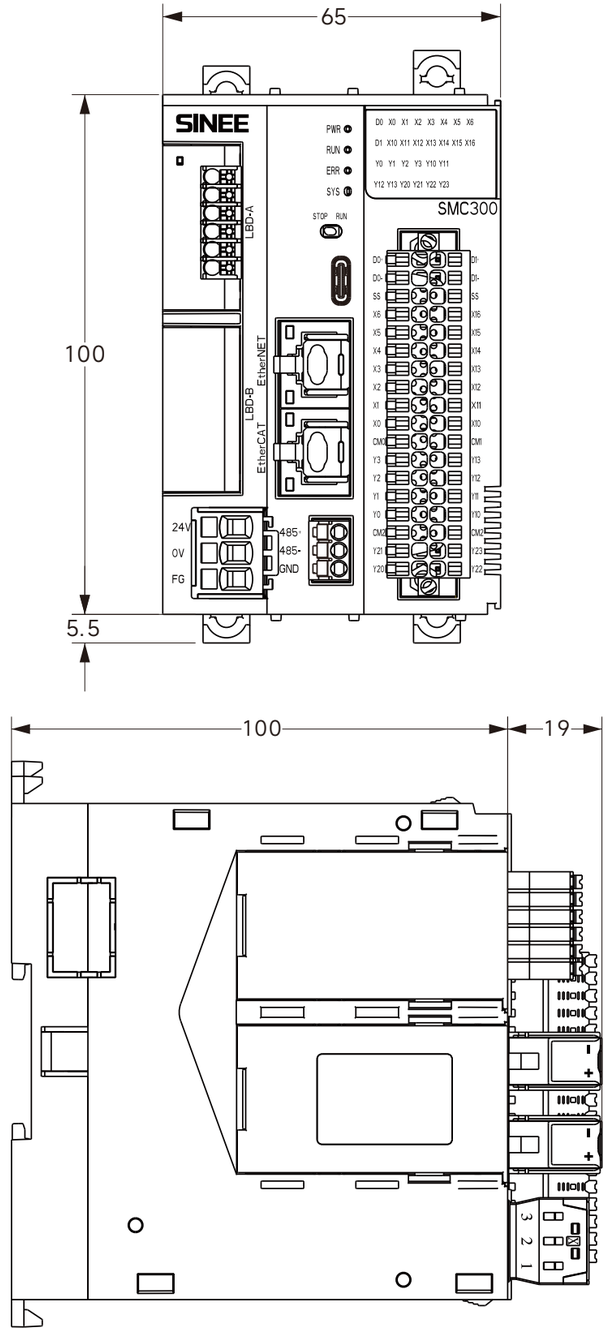
Environmental specifications

Item	Specifications
Operating temperature	-10 ~ +55℃
Storage temperature	-25 ~ 80℃
Relative humidity	5% ~ 95% (No condensation)
Altitude	Below 2000m
Pollution level	2
Protection level	IP20
Cooling method	Passive heat dissipation, natural air cooling
Installation	Rail mounting 35mm

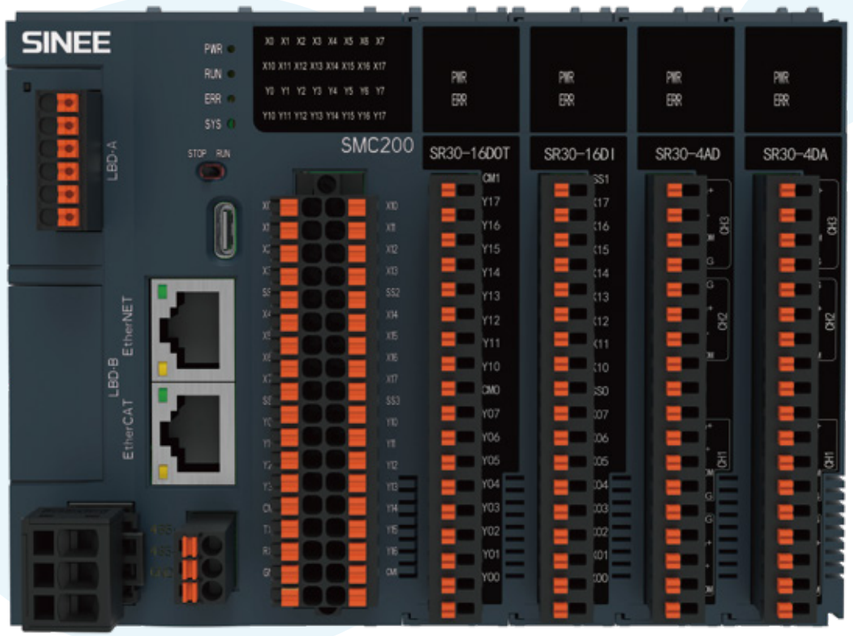
Power specifications

Item	Specifications
Input power spec.	24V ± 10%，3A
Undervoltage level	18V

Product Dimensions



SMC200 Series Small PLC



Multiple Bus
Equipped with EtherNET and EtherCAT as standard, supporting multiple communication protocols

Easy Programming
Support ST language programming function, easy to write complex algorithms and logical functions

Superior Performance
Supports up to 4 pulse axes or 8 bus axes, bus synchronization cycle 1ms

Compact Structure
Blade-type expansion, quick and easy assembly, saving space

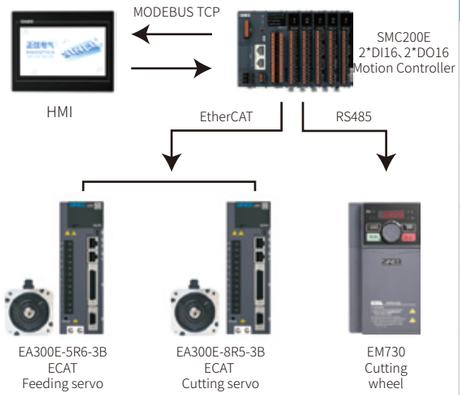
Flexible Expansion
Supports a variety of expansion modules + optional accessories to meet various application requirements

Technical Support
Provide comprehensive technical support and application services

Circular saw machine solution

The circular saw industry has an increasing demand for high-precision and high-efficiency production equipment. As a key device, motion controllers are increasingly used in circular saw production equipment.

Composition



Configuration List

NO	Components	QTY	Illustration
1	Servo Drive (Feeding)	1 Set	EA300E-5R6-3B (Absolute value)Servo Drive SES13-0R8-15-3FBY（850W） Motor
2	Servo Drive (Cutting)	1 Set	EA300E-8R5-3B (Absolute value)Servo Drive SES13-1R8-15-3FBY(1800w) Motor
3	PLC Controller	1unit	SMC-200E（BUS）
4	Right Module	2units	SR30-16DI*2 SR30-16DO*2
5	HMI	1 unit	FE6070H（7” 16:9 TFT LCD）
6	Inverter (Cutting)	1 unit	EM730

Process Steps

S/N	Step	Illustration
1	Power-on initialization	Determine whether there is material in the feeding clamp
2	Receives material	The photoelectric function of the material rack determines whether there is material in the material rack. If there is material, the feeding shaft reaches the material receiving position and receives the material.
3	Material judgment	After receiving the material, the feeding axis moves step by step in the photoelectric direction of the material head, and is sensed by the photoelectric switch of the material head. The shaft position is used to determine the length of the material head and calculate whether it meets the length of the currentworkpiece
4	Workpiece length judgment	Workpiece length > worktable length. Multiple transports Workpiece length < worktable length. Single delivery
5	Cutting	The workpiece is transported to the designated cutting position by the feed shaft. The feed shaft clamp is released. The fixed clamp is tightened. The cutting shaft starts to move downward and cut.
6	Continue feeding	Cycle cutting: the feed axis retreats to the length of the workpiece, the clamp is tightened, and the material is fed, and the cycle continues Single-step cutting: The feeding axis reaches the material receiving position, and each time the cutting axis finishes cutting, it moves forward a distance the length of the workpiece.
7	End material Judgment	The feeding axis moves backward to feed the material. When the material tail switch sensing signal disappears, the feeding axis stops, records the current position of the feeding axis, and determines whether the current remaining material length meets the length of the workpiece. If it does, continue feeding. If it does not meet the length, discard the material.
8	Discard material	The remaining material is not enough to be processed into qualified parts, and the material is discarded

Features

RS485 communication: Read and write inverter parameters

Ethernet communication: Real-time monitoring of program parameters

Automatic switching: Automatic calculation and switching of long and short materials

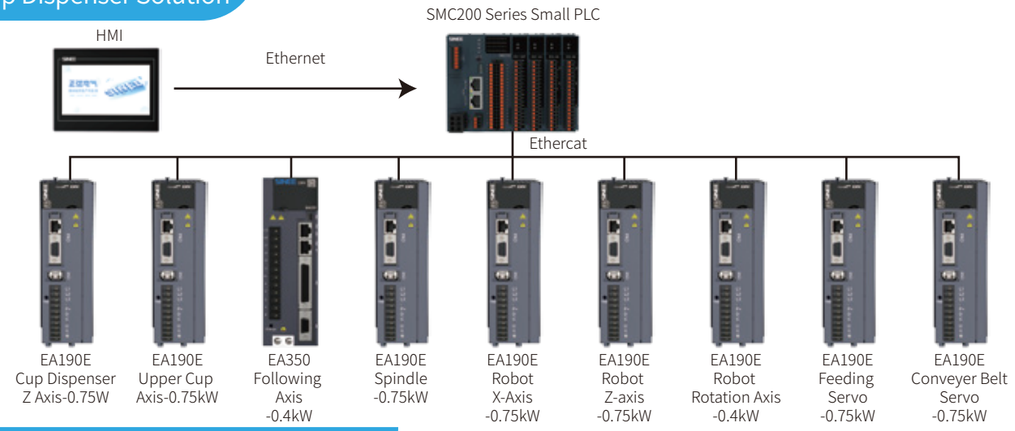
Rich modes:: Including manual, semi-automatic, fully automatic, etc.

Rich functions:: Automatic material turning, automatic feeding, residual material separation, automatic chip removal, etc.

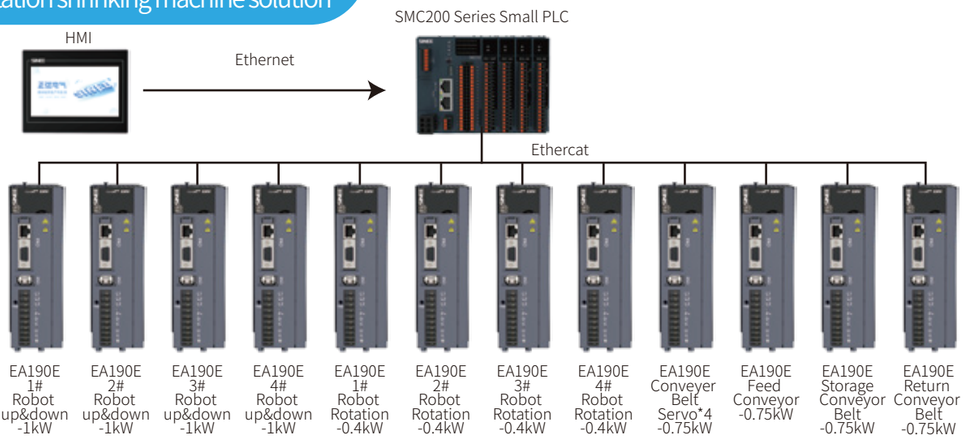
Vacuum cup production solutions

With the continuous advancement of technology and the changing market demand, motion controllers play an increasingly important role in the vacuum cup production industry, bringing more innovation and changes to the vacuum cup production industry.

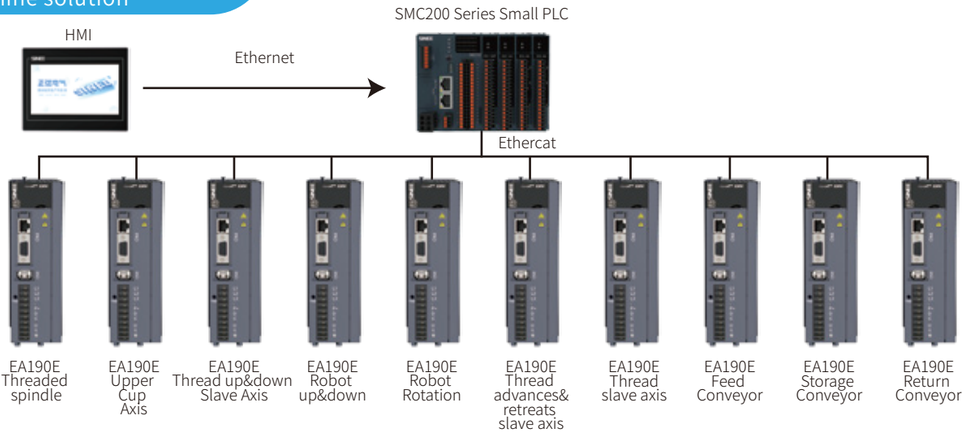
Cup Dispenser Solution



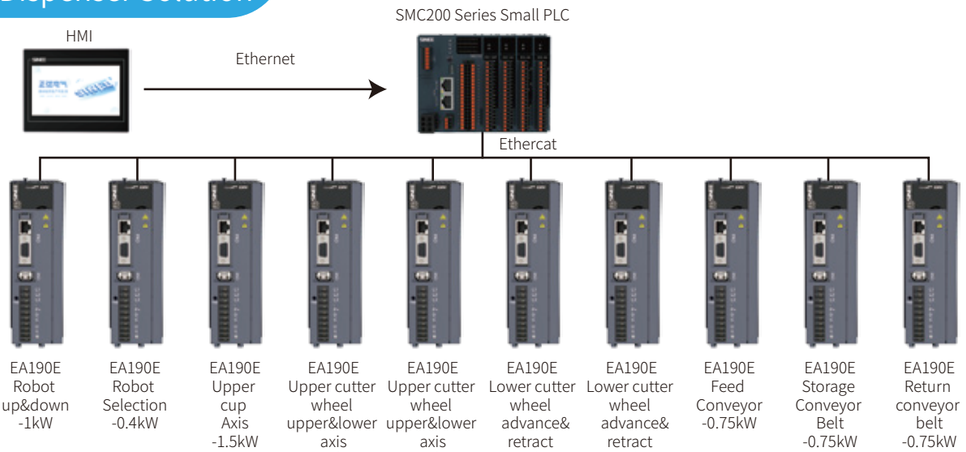
Four-station shrinking machine solution



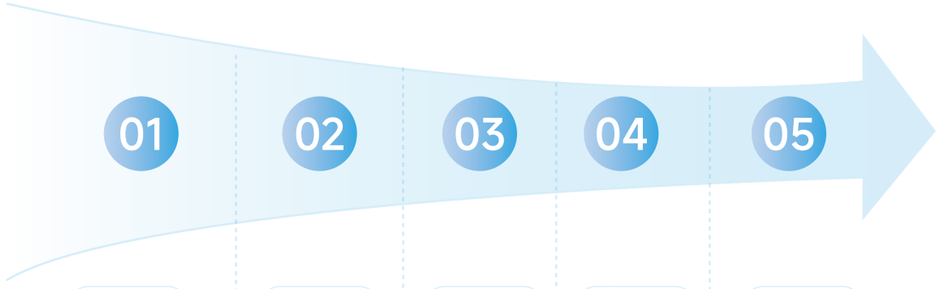
External and internal thread machine solution



Cup Dispenser Solution



Solution Advantages



Solution performance advantages

Processing efficiency

Production efficiency:
4.5s/pcs

Pass rate

Processing qualification rate: 99%

Positioning accuracy

Positioning accuracy:
±0.05mm

SMC200 Series Motion Controller---Naming Rule and Specification

SMC 200 - 008E - XX

① ② ③ ④ ⑤

Product Categories	
SMC	Motion controller host

Series	
200	200 Series

Axis	
008	8 Axis

Instruction Type	
E	EtherCAT

Non-standard customization

Model			SMC200-004E	SMC200-006E	SMC200-008E
Programming capacity	Program data capacity		256KB		
	Power-off retention capacity		128KB		
Programming Language			LD, IL		
Axis Capacity	Number of pulse axes		4		
	Total number of axes		4	6	8
Right Extension	Max right extension amount		8		
Optional Accessories	Max number of optional cards		2		
Host IO point	Input	Points	12 points normal input + 4 points high speed input		
		Function	4-way 200K high-speed pulse input (single phase, AB phase, CW/CCW)		
	Output	Points	7 points normal input + 4 points high speed input		
		Function	4-way 200K high-speed pulse output (pulse + direction)		
USB		Number of interfaces	1-way USB2.0 TYPE-C		
		Support functions	Firmware upgrade, monitoring, software oscilloscope, etc.		
Power Supply			DC24V		
Serial Port	RS485	Number of interfaces	Max 3 channels: 1 channel built into the host, 2 more channels can be added by installing optional accessories		
		Support Protocol	HMI Protocol		
		Max number of slaves	32		
		Baud rate bps	9600、38400、115200		
	RS232	Number of interfaces	Max 2 channels: 1 channel built into the host, 2 channels can be expanded by installing optional accessories		
		Support Protocol	HMI Protocol		
		Max number of slaves	1		
		Baud rate bps	9600、38400、115200		
EtherNet	Number of interfaces		1-Way		
	Function		Communication, program upload and download, etc.		
	Data transfer speed		10M/100Mbps		
	Total number of TCP connections		8		
	Modbus TCP		Max number of clients (masters): 7; Max number of servers (slaves): 8		
	Socket		Maximum number of connections: 8 (TCP)		
	Cables		Standard Industrial Ethernet Communication Cable		
EtherCAT	Topology		Linear		
	Transmission medium		Standard EtherCat communication cable		
	Max transmission distance between nodes		100m		
	Max number of slaves		4	6	8
	Communication cycle		Minimum 1ms		
	Support Protocol		EtherCat Master		

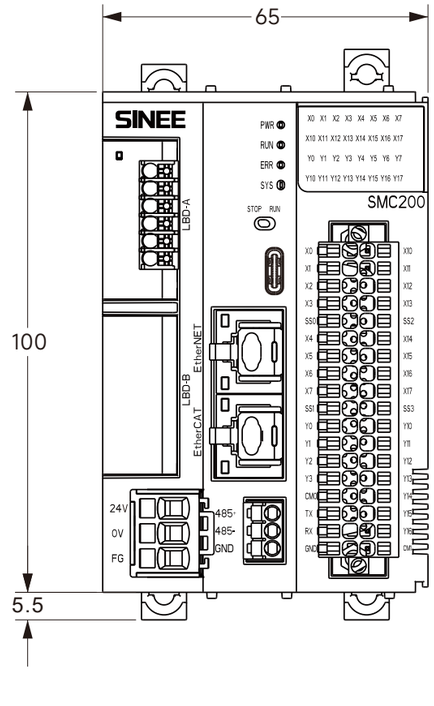
Environmental Specifications

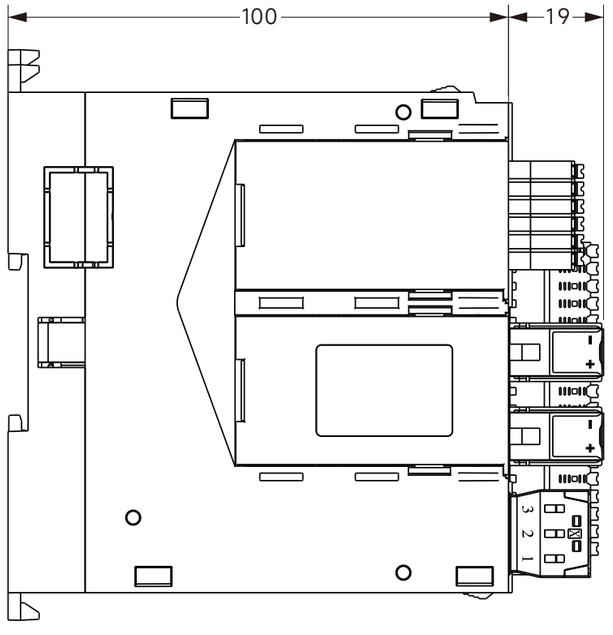
Item	Specifications
Operating temperature	-10 ~ +55℃
Storage temperature	-25 ~ 80℃
Relative humidity	5% ~ 95% (No condensation)
Altitude	2000m
Pollution level	2
Protection level	IP20
Cooling method	Natural air cooling
Installation	Rail mounting 35mm

Power Specifications

Item	Specifications
Input power spec.	24V ± 10%, 3A
Undervoltage level	18V

Product Dimensions





SMC390 High performance medium and large motion controller---Naming Rule and Specification

SMC 390 - 064E - XX

① ② ③ ④ ⑤

Product Categories		Series		Axis		Instruction Type		Non-standard customization
SMC	Motion controller host	390	390 Series	064	64 Axis	E	EtherCAT	

Model			SMC390-064E
Programming capacity	Program data capacity		24M
	Power-off retention capacity		4kb
Programming Language			IL、SFC、CFC、FBD、LD、ST
Axis Capacity	Number of pulse axes		/
	Total number of axes		64
Right Extension	Max right extension amount		/
Optional Accessories	Max number of optional cards		/
Host IO point	Input		8 points common input (isolation protection: 5KV)
	Output		8 points normal output (isolation protection: 5KV)
USB			1*Micro/2*USB2.0
Power interface			Support DC9V~DC36V
Power Supply			DC24V
Serial Port	RS485	Number of interfaces	Max 3 Way
		Support Protocol	Modbus master and slave; free protocol
		Max number of slaves	32
		Baud rate bps	9600、19200、38400、57600、115200
	RS232	Number of interfaces	Max 1 Way
		Support Protocol	Modbus master and slave; free protocol
		Max number of slaves	1
		Baud rate bps	9600、19200、38400、57600、115200
Ethernet	Number of interfaces		2-Way
	Function		Communication, program upload and download, etc.
	Data transfer speed		10M/100Mbps
	Total number of TCP connections		32
	Modbus TCP		Modbus TCP can connect to up to 32 servers as a client
	Socket		Maximum number of connections: 32 (UDP+TCP)
	Cables		Standard Industrial Ethernet Communication Cable
EtherCat	Topology		Linear
	Transmission medium		Standard EtherCat communication cable
	Max transmission distance between nodes		100m
	Max number of slaves		64
	Communication cycle		1ms drives 64 axes
	Support Protocol		EtherCat Master

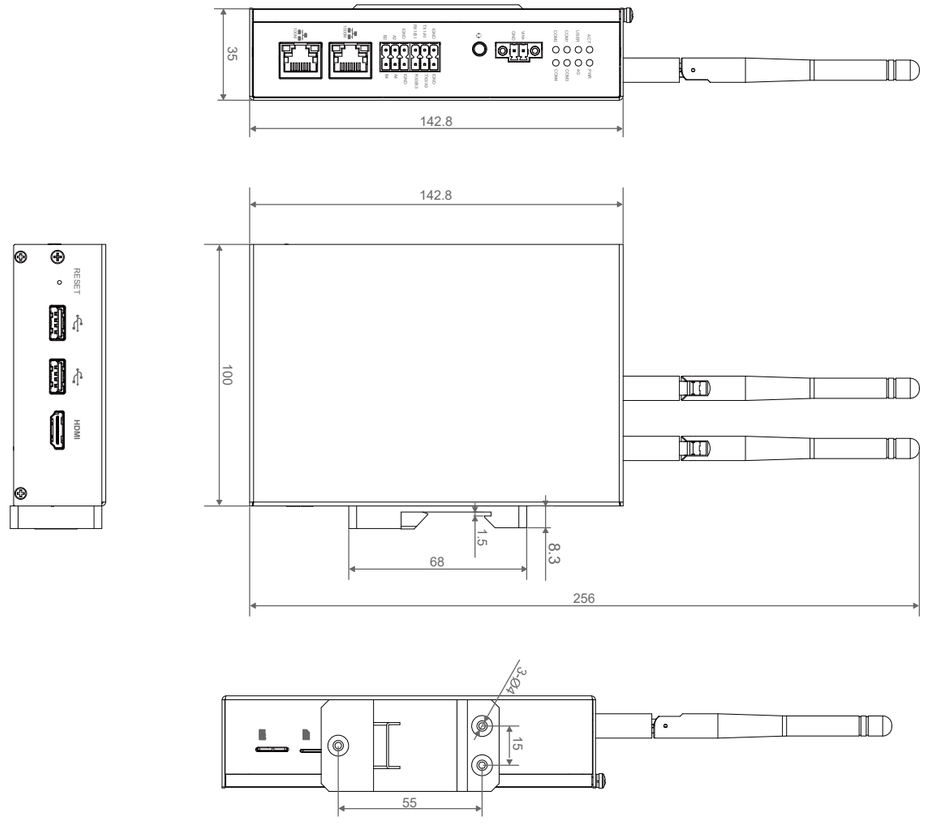
Environmental Specifications

Item	Specifications
Operating temperature	-10 ~ +55°C
Storage temperature	-25 ~ 60°C
Relative humidity	5% ~ 95%(non-condensing)
Altitude	Below 2000M
Pollution level	2
Cooling method	Natural air cooling
Installation	Rail installation 35mm

Power specifications

Item	Specifications
Input power spec.	9V~36V power input, over-current, over-voltage and reverse connection protection

Product Dimensions

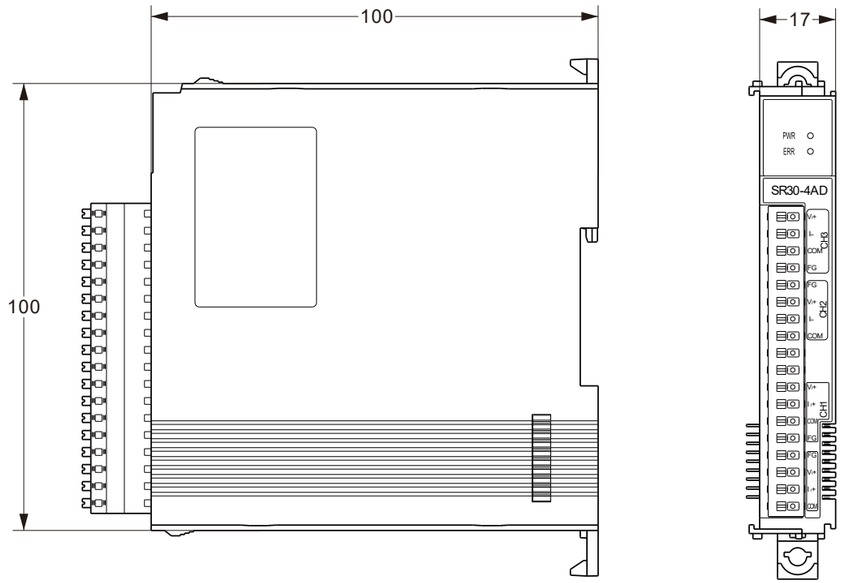


Unit: mm

SR30 Series Expansion Modules

SR30-4DA	SR30-4AD	SR30-16DOT	SR30-16DI	SR30-4TC	SR30-8DI8DOT

Product Dimensions



SR30-16DI、SR30-16DOT、
SR30-4DA、SR30-4AD、
SR30-4TC、SR30-8DI8D0

SR30 Series digital modules

Model		SR30-16DI	SR30-16DOT	SR30-8DI8DO
Input Specifications	Input points	16	—	8
	Input format	Source and sink	—	Source and sink
	Rated input voltage	DC24V	—	DC24V
	Rated input current	5mA	—	5mA
	ON/OFF Response time	100us	—	100us
	Input Impedance	5.1KΩ	—	5.1KΩ
	Max input frequency	1K	—	1K
	Public	8 points/each	—	8 points/each
Output specifications	Output points	—	16	8
	Output format	—	NPN	NPN
	OFF Leakage current	—	＜10uA	<10uA
	Max output frequency	—	1K	1K
	Maximum load	—	1 mA/5V	1mA
	ON/OFF Response time	—	100us	100us
	Public	—	8 points/each	8 points/each
Input power rated voltage		DC24V(±10%)		
Power consumption		1W		
Public terminal connection method		The two common terminals SS and COM are independent. SS can be connected to 24V or 0V of the DC power supply. COM can only be connected to 0V of the DC power supply		
Module hot swap function		Not supported		

SR30 Series Analog Modules

Model	SR30-4AD	SR30-4DA
Input channels Number	4	4
Input Mode	Voltage/Current	Voltage/Current
Input range	-10V ～ +10V	-10V ～ +10V
	0V ～ 10V	0V ～ 10V
	0mA ～ 20mA	0mA ～ 20mA
	4mA ～ 20mA	4mA ～ 20mA
Input Type	Differential input	-
Output Type	-	Single-ended output
Input Impedance	1MΩ	
Sampling time	200us/4channels	200us/4channels
Conversion time	320ns/channels	250ns/channels
Output refresh	Bus cycle synchronous refresh	Bus cycle synchronous refresh
Stop Mode	Keep the current value and do not refresh	Output according to fault shutdown mode or preset value, no longer refresh
Individual channel enable configuration	Supported	Supported
Filter parameter settings	Can be configured via host computer, setting range 0～255	–
Resolution	16bit	16bit
Input precision	1%	1%
Input power rated voltage	DC24V(±10%)	DC24V(±10%)
Power consumption	1W	1W
Module hot swap function	Not supported	Not supported

SR30 Series Temperature Control Module

Model	SR30-4TC
Output channel Number	4
Output Mode	Voltage
Output Range	-9.8mV-76mv
Output Type	Differential input
Display Mode	°C，°F
Display sensitivity	0.1°C，0.1°F
Input Terminals	Thermocouple input, thermocouple：B，E，J，K，N，R，S，T
Compensation	Internal cold junction compensation
Sampling time	40ms/100ms/200ms/ 400ms host computer optional
Overflow and underflow detection	Supported
Input derating	/
Individual channel enable configuration	Supported
Temperature offset enable configuration	Supported
Filter parameter settings	Set by the host computer, Setting range 0~100
Input power rated voltage	DC24V
Isolation	/
Power consumption	<0.9W
Module hot swap function	Not supported

Expansion Card Comparison Catalogue

SL30-RTC	SL30-2A2D

SL30-4DI	SL30-4DOT	SL30-2DI-H

SL30-C25	SL30-C25-RTC	SL30-CCAN

SL30 series digital expansion card

Model		SL30-4DI	SL30-4DOT	SL30-2DI-H
Pictures				
Input	Input points	4	—	2
	Input format	Source and sink	—	Differential input
	Rated input voltage	DC24V	—	DC5V
	Rated input current	5mA	—	2.5mA
	ON/OFF Response time	100us	—	—
	Input Impedance	5.1KΩ	—	2.2KΩ
	Max input frequency	1K	—	200K
	Public	2 points/each	—	—
Output	Output points	—	4	—
	Output format	—	NPN	—
	OFF Leakage current	—	< 10uA	—
	Max output frequency	—	1K	—
	Minimum load	—	1 mA/5V	—
	ON/OFF response time	—	100us	—
	Public	—	2 points/each	—
Support slots		A/B		A
Isolation		Optocoupler Isolation		Optocoupler Isolation
Public terminal connection method		SS can be connected to 24V or 0V of DC power supply COM can only be connected to 0V of DC power supply		—
Module hot swap function		Not supported		Not supported

SL30 Series Communication Expansion Card

Model	SL30-C25	SL30-C25-RTC	SL30-CCAN
Pictures			
Terminal resistance	Built-in terminal resistor	Built-in terminal resistor	Built-in terminal resistor
RS485/RS232	1 - W a y	1 - W a y	1-Way
Baud rate	9600、19200、38400、57600、115200	9600、19200、38400、57600、115200	9600、19200、38400、57600、115200
Communication capabilities	RS485 supports up to 31 Slaves	RS485 supports up to 31 Slaves	RS485 supports up to 31 slaves CAN supports up to 61 slaves
CAN baud rate	—	—	Baud rate 1000kbit/s: distance <20m Baud rate 500kbit/s: distance <80m Baud rate 250kbit/s: distance <150m Baud rate 125kbit/s: distance <300m
Support slots	A/B	A	B
Clock accuracy	—	120 seconds/month	—
Clock specifications	—	Year/Month/Day/Hour/Minute/Second	—
Internal battery	—	Three-year lifespan, supports replacement	

SL30 Series Real-Time Clock Expansion Card

Model	SL30-RTC
Pictures	
Support slots	A
Clock accuracy	120 seconds/month
Clock Specifications	Year/Month/Day/Hour/Minute/Second
Internal battery	Three-year lifespan, supports replacement

SL30 Series Analog Expansion Card

Model	SL30-2A2D
Pictures	
Input channels number	2
Output channels number	2
Input/Output Mode	Voltage
Input/output range	0V~10V
Input/Output Type	Single-ended input/output
Input Impedance	1MΩ
Load resistance	2KΩ
Sampling time	32us/2AD channel
Conversion time	21us/channel
Output refresh	Bus cycle synchronous refresh
Stop Mode	Output preset value or keep current value
Single channel enable configuration	Support single channel independent enable
Filter parameter settings	Set by the host computer, the setting range is 0~255
Resolution	12bit
Input/output accuracy	1%
Input power rated voltage	DC5V(±10%)
Support slots	A/B
Isolation	/
Power consumption	1W
Module hot swap function	Not supported

HMI Series---Naming Rule and Specification

VMi 10 - 07 C 2 1 -XXXX

① ② ③ ④ ⑤ ⑥ ⑦

① Product Type	
VMi	Touch Screen

② Product Series	
10	10 Series
20	20 Series
30	30 Series

③ Screen Size	
07	7 inches
10	10 inches
15	15.6 inches

④ Type 1	
C	Class 1

⑤ Type 2	
1	Economical
2	Universal
3	IoT

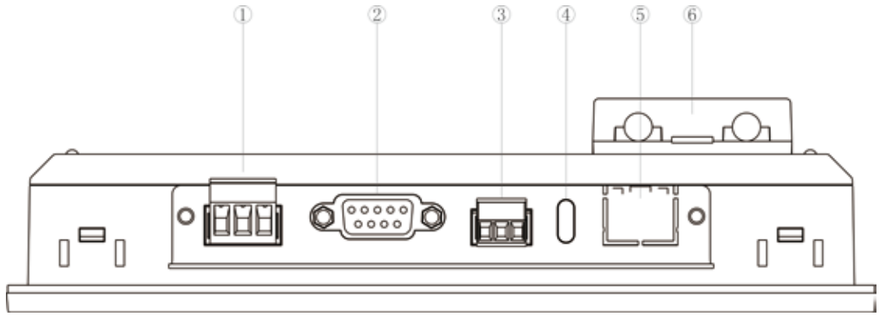
⑥ Interface Type	
0	Without network port
1	With network port

⑦ Non-standard Customization

Model		VMI10-07C10	VMI10-07C11	VMI10-07C21	VMI10-07C31
Display	LCD viewing angle (T/B/L/R)	50'/60'/60'/60'		60'/75'/75'/75'	
	Display	7" TFT LCD		7" TFT LCD	
	Resolution	800×480		800×480	
	Color	24-bit (16.77 million)		24-bit (16.77 million)	
	Brightness	300 cd/m²		400 cd/m²	
	Backlight	LED		LED	
	LCD lifespan	20,000 hours		35000 hours	
Touch Panel	Touchscreen	4-wire industrial resistive touch screen		4-wire industrial resistive touch screen	
	CPU	ARM Cortex-A7 dual-core 1.2GHz		ARM Cortex-A7 dual-core 1.2GHz	
	Storage	128M Flash + 128 DDR3		128M Flash + 128 DDR3	
Calendar	RTC	Built-in		Built-in	
Communication Port	Ethernet	/	1-channel 10M/100M adaptive	1-channel 10M/100M adaptive	
	USB port	1 USB Host 2.0 port		1 USB Host 2.0 port	
	Serial communication port	COM1: RS232/RS485		COM1: RS232 COM2: RS485/RS422; COM3: RS485	
	IoT	-	-	-	Expandable 4G or WIFI
Power Specifications	Rated Power	< 7W		< 10W	
	Rated Voltage	DC24V, working range DC 9V~28V		DC24V, working range DC 18V~30V	
	Power Protection	No isolation		With lightning surge protection	
	NVS	< 5mS		< 5mS	
Structure	PCB Coating	/		Default: None (optional)	
	Overall Size	203*149*39mm		202*165*43mm	
	Opening Size	190*136mm		192*138mm	
	Mechanical Mechanism	Engineering Plastics		Engineering Plastics	
	Protection level	Front panel: IP65; rear cover: IP20		Front panel: IP65; rear cover: IP20	
	Weight (g)	About 0.6Kg		About 0.8Kg	
	Installation	Panel embedded		Panel embedded	
Operating Environment	Operating temperature	0~50℃		0~50℃	
	Storage temperature	-20~60℃		-20~60℃	
	Ambient humidity	10~90%RH (no condensation)		10~90%RH (no condensation)	
	Earthquake resistance	10~25Hz (2G/30 minutes in X, Y, and Z directions)		10~25Hz (2G/30 minutes in X, Y, and Z directions)	
	Cooling method	Natural air cooling		Natural air cooling	

HMI Series---Naming Rule and Specification

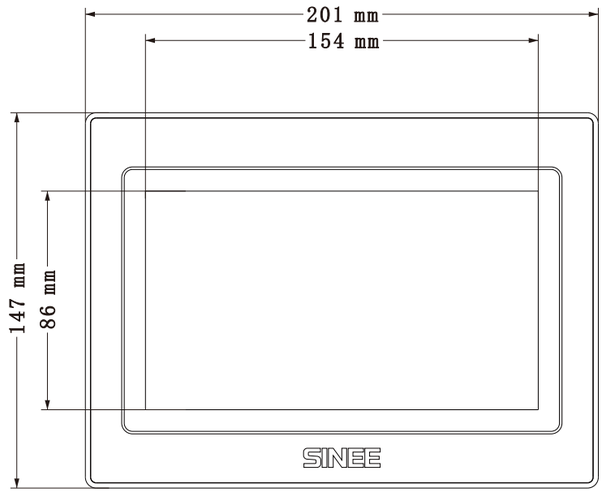
Model		VMI10-10C11	VMI10-10C31	VMI10-15C31
Display	LCD viewing angle (T/B/L/R)	50'/60'/60'/60'	60'/75'/75'/75'	80'/80'/80'/80'
	Display	10.1" TFT LCD	10.1" TFT LCD	15.6" TFT LCD
	Resolution	1024×600	1024×600	1920×1080
	Color	24-bit (16.77 million)	24-bit (16.77 million)	24-bit (16.77 million)
	Brightness	300 cd/m²	400 cd/m²	250cd/m²
	Backlight	LED	LED	LED
	LCD lifespan	20000 hours	35000 hours	50000 hours
Touch Panel	Touchscreen	4-wire industrial resistive touch screen	4-wire industrial resistive touch screen	4-wire industrial resistive or high-voltage capacitive touch screen
	CPU	ARM Cortex-A7 dual-core 1.2GHz	ARM Cortex-A7 dual-core 1.2GHz	ARM Cortex-A53 quad-core 1.5GHz
	Storage	128M Flash + 128 DDR3	128M Flash + 128 DDR3	1G Flash +8G DDR3
Calendar	RTC	Built-in	Built-in	Built-in
Communication Port	Ethernet	1-channel 10M/100M adaptive	1-channel 10M/100M adaptive	2-way 10M/100M adaptive
	USB port	1 USB Host 2.0 port	1 USB Host 2.0 port	2 USB Host 2.0 ports
	Serial communication port	COM1: RS232/RS485	COM1: RS232 COM2: RS485/RS422; COM3: RS485	COM1: RS232 COM2: RS485/RS422; COM3: RS485
	IoT	-	Expandable 4G or WIFI	Expandable 4G or WIFI
Power Specifications	Rated Power	< 10W	< 10W	< 10W
	Rated Voltage	DC24V, working range DC 9V~28V	DC24V, working range DC 18V~30V	DC24V, working range DC 12V~28V
	Power Protection	No isolation	With lightning surge protection	With lightning surge protection
	NVS	< 5mS	< 5mS	< 5mS
Structure	PCB Coating	/	Default: None (optional)	Default: None (optional)
	Overall Size	274*193*40mm	278*219*43mm	395*258*52mm
	Opening Size	260*180mm	260*202mm	384*247mm
	Mechanical Mechanism	Engineering Plastics	Engineering Plastics	Industrial die-cast aluminum
	Protection level	Front panel: IP65; rear cover: IP20	Front panel: IP65; rear cover: IP20	Front panel: IP68; rear cover: IP20
	Weight (g)	About 1Kg	About 1.2Kg	About 2.5Kg
	Installation	Panel embedded	Panel embedded	Panel embedded
Operating Environment	Operating temperature	0~50℃	0~50℃	0~50℃
	Storage temperature	-20~60℃	-20~60℃	-20~60℃
	Ambient humidity	10~90%RH (no condensation)	10~90%RH (no condensation)	10~90%RH (no condensation)
	Earthquake resistance	10~25Hz (2G/30 minutes in X, Y, and Z directions)	10~25Hz (2G/30 minutes in X, Y, and Z directions)	10~25Hz (2G/30 minutes in X, Y, and Z directions)
	Cooling method	Natural air cooling	Natural air cooling	Natural air cooling

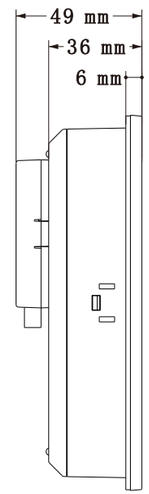


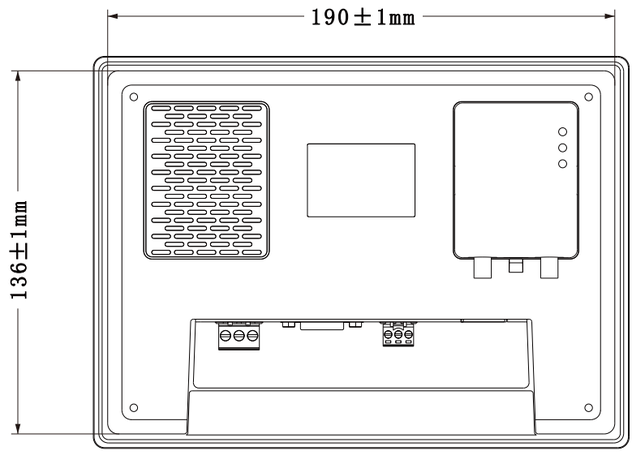
S/N	Type	Interface ID	Illustration
1	Power Interface	+24V 0V PE	① ② ③ As shown in the figure above, from left to right: +24V, 0V, PE
2	DB9 communication port	COM1/COM3	1 2 3 4 5 6 7 8 9 COM1: 6 RS232_TX; 9 RS232_RX COM3: 8 RS485+; 7 RS485- Public: 5 GND
3	RS485	COM2	① ② ③ COM2: 1 RS485+; 2 RS485-; 3 GND
4	TYPE-C interface	USB	Reserved
5	Ethernet port	EtherNet	Default IP: 192.168.2.121
6	Expansion Accessories	/	Expandable WiFi/4G module

Product Dimensions

7-inch touch screen design size



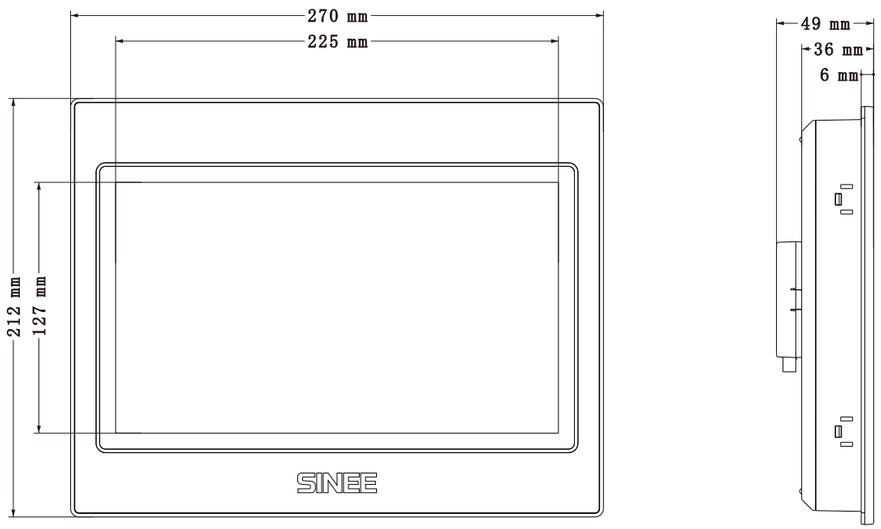


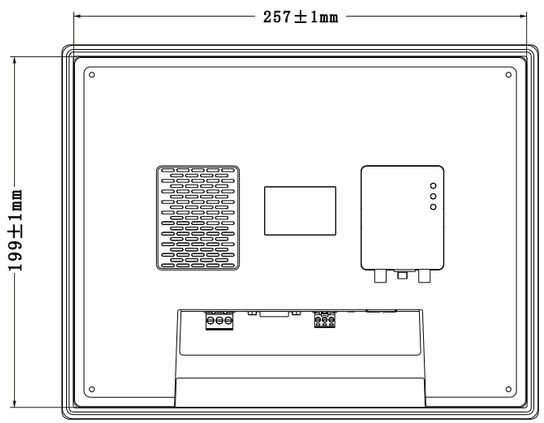


Opening size：192mm W x 138mm H

Product Dimensions

10.2-inch touch screen design size

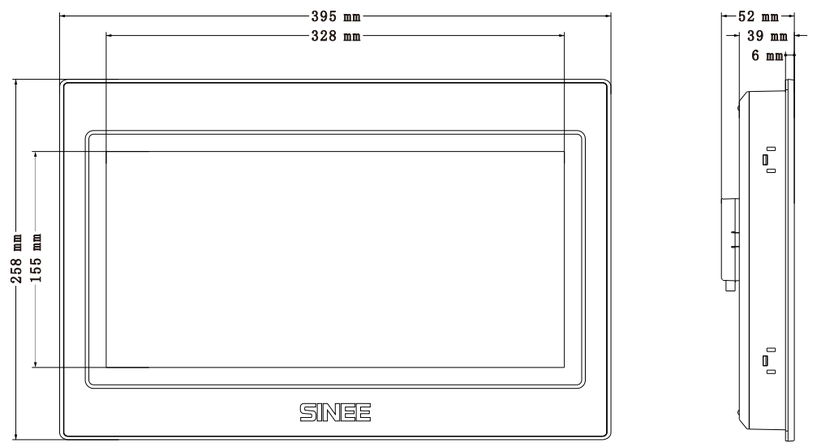


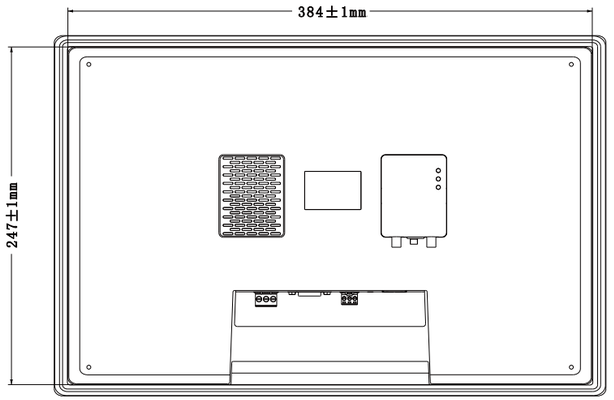


Opening size：259mm W x 201mm H

Product Dimensions

15.6-inch touch screen design size





Opening size：386mm W x 249mm H

Quick Selection Table

Controller host selection table

Order Model	Specifications Overview	Order code
SMC300-006E	EtherCAT bus axis*6, EtherNET*1, RS485*1, 16 inputs and 8 outputs, 2 accessory cards, supports 16 expansion modules	01060005
SMC300-008E	EtherCAT bus axis*8, EtherNET*1, RS485*1, 16 inputs and 8 outputs, 2 accessory cards, supports 16 expansion modules	01060004
SMC300-012E	EtherCAT bus axis*12, EtherNET*1, RS485*1, 16 inputs and 8 outputs, 2 accessory cards, supports 16 expansion modules	01060003
SMC300-016E	EtherCAT bus axis*16, EtherNET*1, RS485*1, 16 inputs and 8 outputs, 2 accessory cards, supports 16 expansion modules	01060002
SMC300-032E	EtherCAT bus axis*32, EtherNET*1, RS485*1, 16 inputs and 8 outputs, 2 accessory cards, supports 16 expansion modules	01060001
SMC200-004E	200K pulse axis*4, EtherCAT bus axis*4, EtherNET*1, RS485*1, RS232*1, 16 inputs and 11 outputs, 2 accessory cards, support 8 expansion modules	01060008
SMC200-006E	200K pulse axis*4, EtherCAT bus axis*6, EtherNET*1, RS485*1, RS232*1, 16 inputs and 11 outputs, 2 accessory cards, support 8 expansion modules	01060007
SMC200-008E	200K pulse axis*4, EtherCAT bus axis*8, EtherNET*1, RS485*1, RS232*1, 16 inputs and 11 outputs, 2 accessory cards, support 8 expansion modules	01060006

Controller Module Selection Table

Classification	Order Model	Adaptation host	Specifications Overview	Order code
Right expansion	SR30-16DI	SMC300/200 series	16-point digital input, supporting both source and sink modes	02310346
	SR30-16DOT	SMC300/200 series	16-point digital output (NPN transistor)	02310345
	SR30-4AD	SMC300/200 series	4-channel 16-bit analog input; Supported modes: -10V~10V, 0V~10V, 0mA~20mA, 4mA~20mA	02310344
	SR30-4DA	SMC300/200 series	4-channel 16-bit analog output; Supported modes: -10V~10V, 0V~10V, 0mA~20mA, 4mA~20mA	02310343
	SR30-4TC	SMC300/200 series	RTC clock	02310397
	SR30-8DI8DO	SMC300/200 series	8 input points, 8 output points	02310399
Left expansion	SL30-4DI	SMC300/200 series	4-point digital input, supporting both source and sink modes	02310349
	SL30-4DOT	SMC300/200 series	4-point digital output (NPN transistor)	02310348
	SL30-C25	SMC300/200 series	1 channel RS485 or RS232	02310352
	SL30-RTC	SMC300/200 series	RTC clock	02310351
	SL30-C25-RTC	SMC300/200 series	1 RS485 or RS232, support RTC clock	02310353
	SL30-CCAN	SMC300 series	1-way CAN and RS485 communication	02310355
	SL30-2DI-H	SMC200 series	2 differential inputs	02310374
	SL30-2A2D	SMC200 series	2-way analog input 2-way analog output Support mode 0V~10V	02310396

Quick Selection Table

Accessories Selection Table

Classification	Order Model	Adaptation host	Specifications Overview	Order code
Host terminal	DC24V power terminal	SMC300/200 series	SC-T3005003SB0X	14120059
	RS485 Terminal Block	SMC300/200 series	PL1.5B-03-3.50-03-BK	14120085
	Host IO terminal	SMC300/200 series	TP381P-28F-18P-BK	14120086
Left expansion terminal	Button battery	SL30 Extension modules	CR2032	24010004
	SR30 expansion module terminal	SL30 Extension modules	PL1.5B-06-3.50-03	14120098
Right expansion terminal	SL30 expansion module terminals	SR30 Extension modules	TP381P-09-18P-BK	14120087

HMI Selection

Size	Function	Model	Specifications Overview	Order Code
7 inches	Economical	VMi10-07C10	Serial communication port*1, 128M memory	230400431
	Economical network port	VMi10-07C11	Network port*1, serial communication port*1, 128M memory	230400441
	Universal network port	VMi10-07C21	Network port*1, serial communication port*3, 128M memory	230400451
	IoT	VMi10-07C31	Network port*1, serial communication port*3, 128M memory, can expand the IoT	230400461
10 inches	Economical network port	VMi10-10C11	Network port*1, serial port*1, 128M memory	230400471
	IoT	VMi10-10C31	Network port*1, serial communication port*3, 128M memory, can expand the IoT	230400481
15.6 inches	IoT	VMi10-15C31	Network port*1, serial communication port*3, 1G Flash+ 8G DDR3, can expand the IoT	230400491

HMI module selection

Modules	Model	Order code
WIFI	VM10-WIFI	43040006
4G	VM10-4G	43040007
RS485	PL1.5B-03-3.81-0.0	14100118
HMI power terminal	PL2.5B-03-5.08-00-GY	14100122

Controller programming software

Name	Adaptation host	Overview	Download
CODESYS V3.5 SP18	SMC300 Series	SMC300 series motion controller programming software, recommended version: 3.5.18.0	www.sinee.cn
SineeStudio	SMC200 Series	SMC200 series small PLC programming software	www.sinee.cn
SINEE VMi Manager	VMI10 Series	HMI programming software	www.sinee.cn

Service

Service

Pre-Sales Service

Technical Guidance

Installation&Debugging

After-Sales Service

On-site Repair

On-site Debugging

Factory Repair

Fault Detection

Maintenance

Online Services

Consultation&answers

Technical Exchange

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