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Stock abbreviation: Xinshida
Securities code: 002527

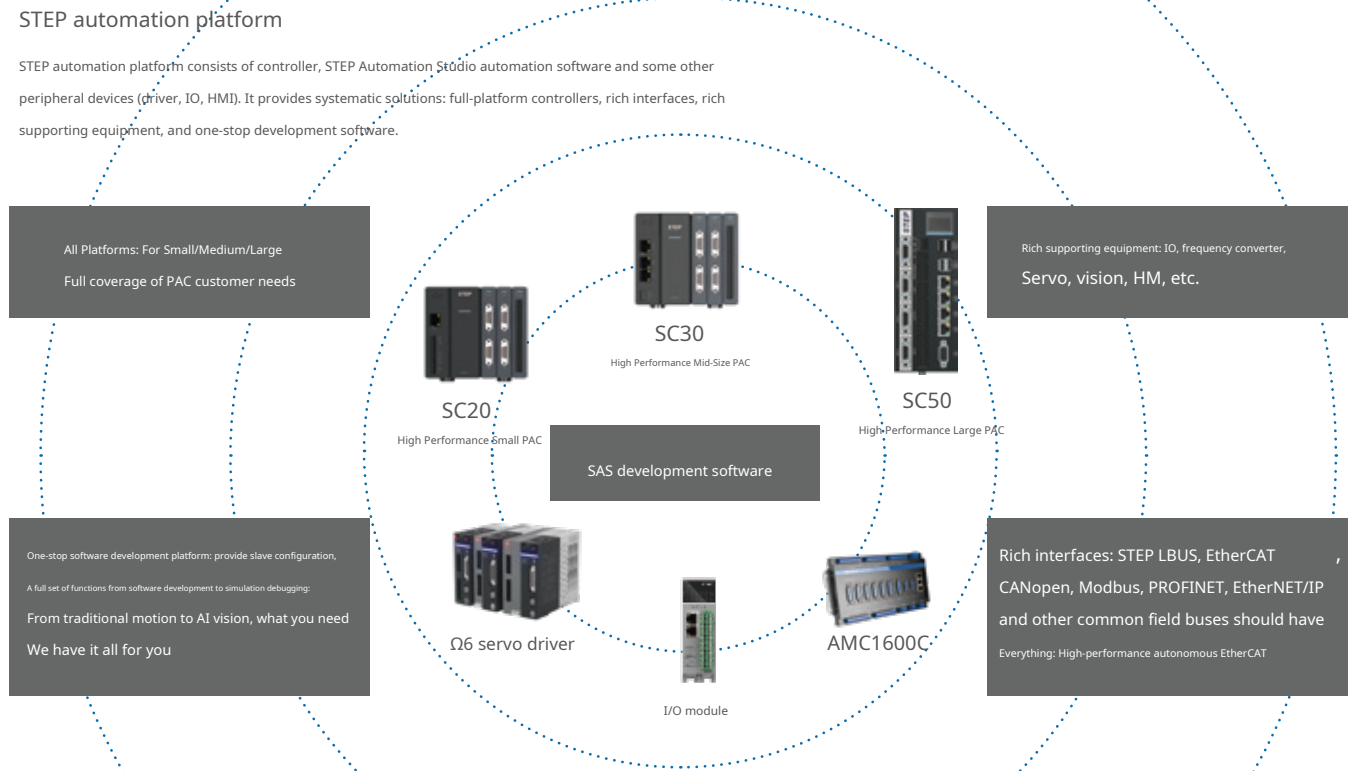
SC Series Intelligent PAC Controller

Product manual

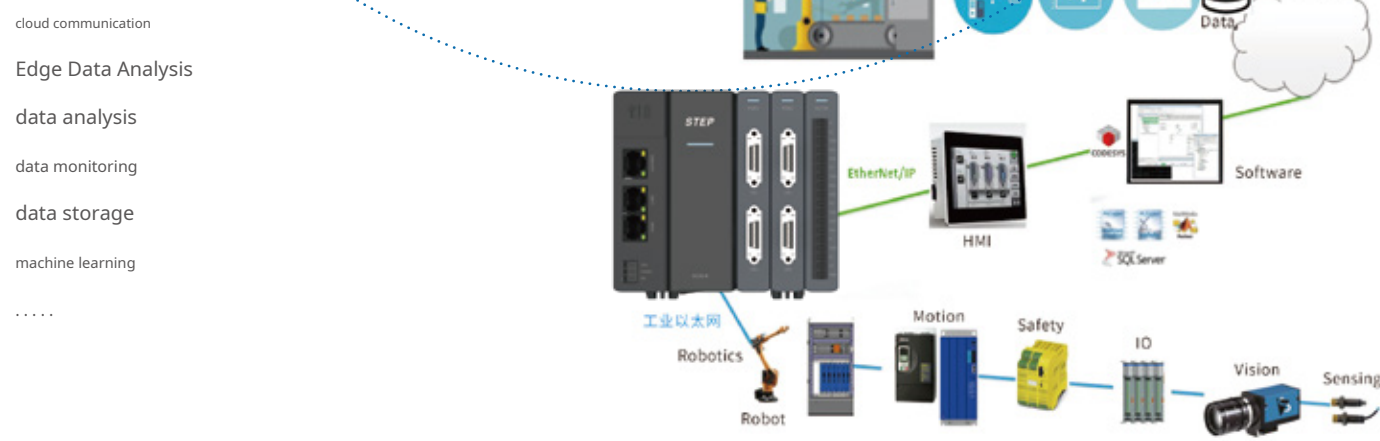


Shanghai New Star Electric Co., Ltd.
Shanghai STEP Electric Corporation

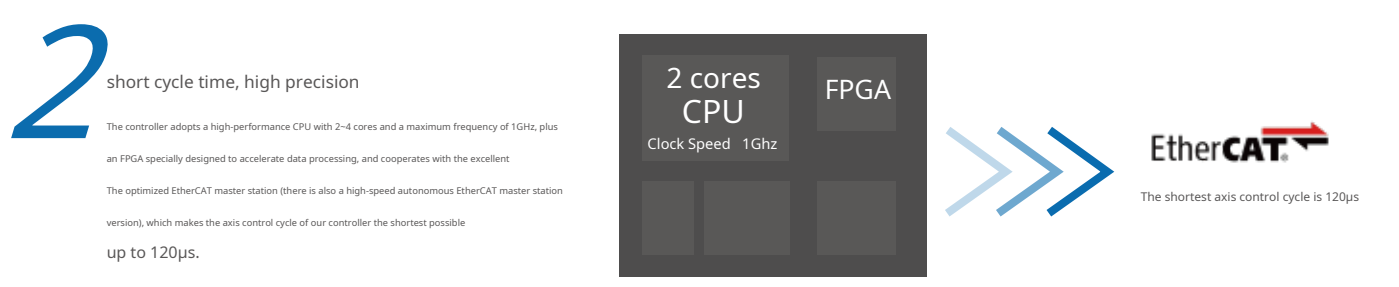
One-stop intelligent solution



Powerful Cloud Functions




Powerful Motion Control Performance




Product Line Introduction


Bring some ability



SC50 series
2Ghz host
Bring a little as much 20,000 individual



SC30 B-series
1GHz frequency dual-core processor
Bring points up to 1000
The controller integrates digital quantity and two four-way six-way pulse signal



SC20 series
480MHz
with a point 512 individual
The controller integrates digital and two four-way six-way pulse signal

have

Boo

land

expand

exhibition

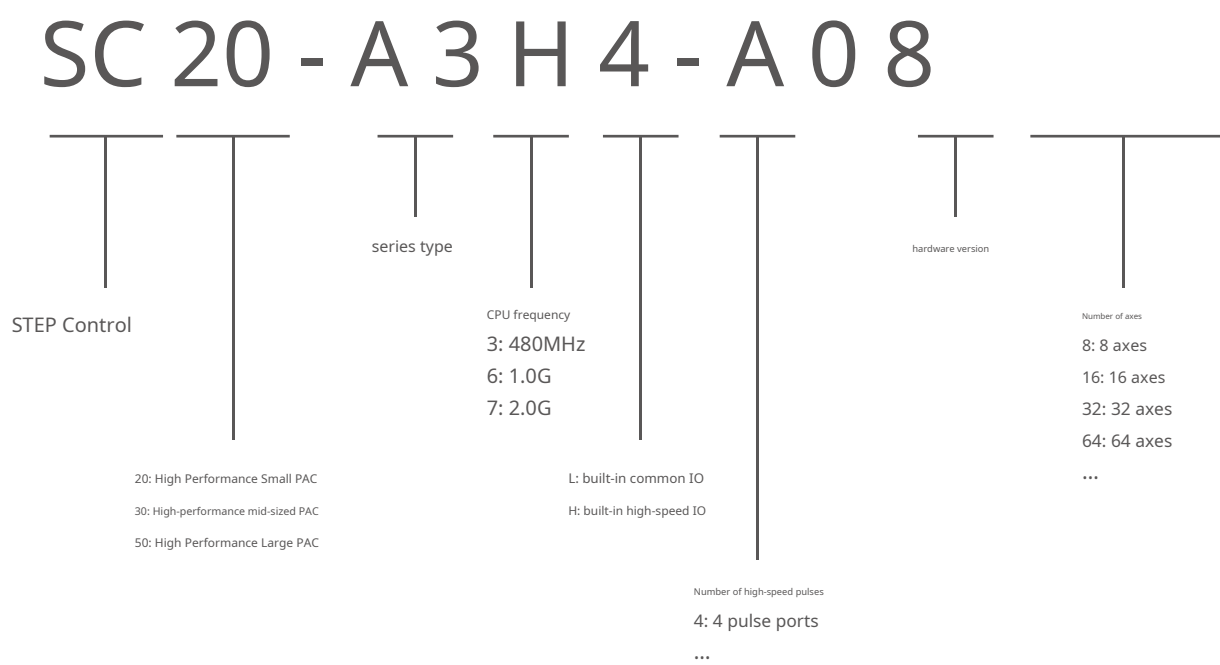
mol

piece

Produced by Seable

Note: Points include local expansion modules and remote expansion modules

Naming rules



SC20-A series



SC30-B series



SC50 series

SC30 series

Product performance parameter table



SC30-B6H

specification		model	SC30-B6H	SC30-B6L
Processor frequency			1GHz dual core	1GHz dual core
RAM capacity			1G	1G
FLASH capacity			8G	8G
Retain data when power off			128K	128K
power input			DC22-28V Max 1A	DC22-28V Max 1A
instruction cycle			1ns	1ns
modular structure	Maximum expansion points		16000	16000
	Number of local expansion modules		32	32
	Support the maximum number of remote EtherCAT nodes		>128	>128
	Integrated DI/DO		Differential: 4-way pulse output, 4-way encoder input	24-way DI, 8-way DO
sport control	Maximum number of axes		64 axis	64 axis
	Maximum number of pulse axes		4 (integrated) + 16 (STEP LBUS extension)	16 (STEP LBUS extension)
	1ms with number of axes		twenty two	twenty two
	Number of linkage interpolation axes		32	32
	EtherCAT axis control minimum cycle time		200μs	200μs
	CNC+PLCOpen (electronic convex, axis group, etc.)		support	support
interface			RS232/RS485/CAN/USB	RS232/RS485/CAN/USB
industrial bus			EtherCAT/Modbus/CANopen	EtherCAT/Modbus/CANopen
Wiring method			Module port/DIN rail	Module port/DIN rail
installation method			DIN rail	DIN rail
weight			<0.5kg	<0.5kg
Power consumption			<5W	<5W
Ambient temperature			- 20~55℃	- 20~55℃
Use environment humidity			10~90%, non-condensing	10~90%, non-condensing
Save ambient temperature			- 20~80℃	- 20~80℃
use altitude			0-2km (no limit)	0-2km (no limit)
			> 2km (environment temperature decreases by 0.5℃ every 100m)	> 2km (environment temperature decreases by 0.5℃ every 100m)
degree of protection			IP20	IP20
pollution level			IE33	IE33
Atmospheric pressure			86~106Kpa	86~106Kpa
EMC anti-interference level			Implementation of EN61000-6-X standard	Implementation of EN61000-6-X standard
Edge Computing/Internet of Things			support	support
develop software			STEP Automation Studio (Codesys)	STEP Automation Studio (Codesys)

SC20 series

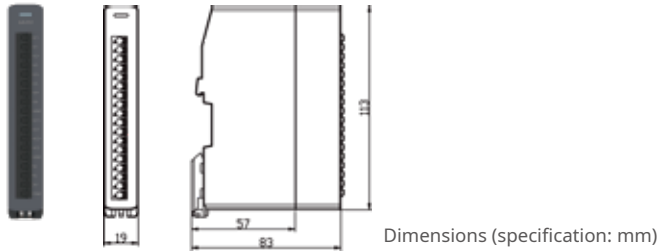
Product performance parameter table



SC20-A3H

specification		model	SC20-A3H	SC20-A3L
Processor frequency			480MHz	480MHz
RAM capacity			32M	32M
FLASH capacity			16M	16M
Retain data when power off			32K	32K
power input			DC22-28V Max 1A	DC22-28V Max 1A
instruction cycle			2ns	2ns
modular structure	Maximum expansion points		512	512
	Number of local expansion modules		8	8
	Support the maximum number of remote EtherCAT nodes		16	16
	Integrated DI/DO		8-way DI, 4-way DO, 2-way AI	32-way DI, 12-way DO, 2-way AI
sport control	Maximum number of axes		20	16
	Maximum number of pulse axes		4 (integrated) +10 (STEP LBUS extension)	10 (STEP LBUS extension)
	1ms with number of axes		16	16
	Number of linkage interpolation axes		6	6
	EtherCAT axis control minimum cycle time		120μs	120μs
	CNC+PLCOpen (electronic convex, axis group, etc.)		support	support
interface			RS232/RS485/CAN/USB	RS232/RS485/CAN/USB
industrial bus			EtherCAT/Modbus	EtherCAT/Modbus
Wiring method			Module port/DIN rail	Module port/DIN rail
installation method			DIN rail	DIN rail
weight			<0.5kg	<0.5kg
Power consumption			<5W	<5W
Ambient temperature			- 20~55℃	- 20~55℃
Use environment humidity			10~90%, non-condensing	10~90%, non-condensing
Save ambient temperature			- 20~80℃	- 20~80℃
use altitude			0-2km (no limit)	0-2km (no limit)
			> 2km (environment temperature decreases by 0.5℃ every 100m)	> 2km (environment temperature decreases by 0.5℃ every 100m)
degree of protection			IP20	IP20
pollution level			IE33	IE33
Atmospheric pressure			86~106Kpa	86~106Kpa
EMC anti-interference level			Implementation of EN61000-6-X standard	Implementation of EN61000-6-X standard
Edge Computing/Internet of Things			support	support
develop software			STEP Automation Studio (Codesys)	STEP Automation Studio (Codesys)

SL series local expansion IO module



Dimensions (specification: mm)

Local Expansion Output Module

specification	model	SL-Y16A01
output channel		16 road
Working load voltage range		<30V
load current max.		0.5A
Maximum Inrush Current		0.8A
power consumption		<2W
I/O refresh method		Synchronous I/O refresh or free-running refresh
Internal I/O sharing		16 NPN outputs
Input voltage		DC224V±20%
ON/OFF response time		> 0.01ms (less than 10K)
Insulation method		Optocoupler isolation
I/O power supply method		5V control power bottom bus, 24V terminal power supply
Protective function		Surge, overcurrent, anti-reverse connection
Ambient temperature		- 20~55℃
Use environment humidity		10~90%, non-condensing
Save ambient temperature		- 20~80℃
use altitude		0-2km (no limit) > 2km (the ambient temperature decreases by 0.5℃ every 100m)
degree of protection		IP20
pollution level		IE33
Atmospheric pressure		86~106Kpa
EMC anti-interference level		Implementation of EN61000-6-X standard

Local Expansion Input Module

specification	model	SL-X16A01
input channel		16 road
Voltage ON/Current ON		10V
OFF voltage/OFF current		2.4mV/1mA
input filter time		100us
I/O refresh method		Synchronous I/O refresh or free-running refresh
Internal I/O sharing		16 channels of NPN input or PNP input
Input voltage		DV24V±20%
ON/OFF response time		> 0.01ms (less than 10K)
Insulation method		Optocoupler isolation
I/O power supply method		5V control power bottom bus, 24V terminal power supply
Protective function		surge
Ambient temperature		- 20~55℃
Use environment humidity		10~90%, non-condensing
Save ambient temperature		- 20~80℃
use altitude		0-2km (no limit) > 2km (the ambient temperature decreases by 0.5℃ every 100m)
degree of protection		IP20
pollution level		IE33
Atmospheric pressure		86~106Kpa
EMC anti-interference level		Implementation of EN61000-6-X standard

Local expansion input and output modules

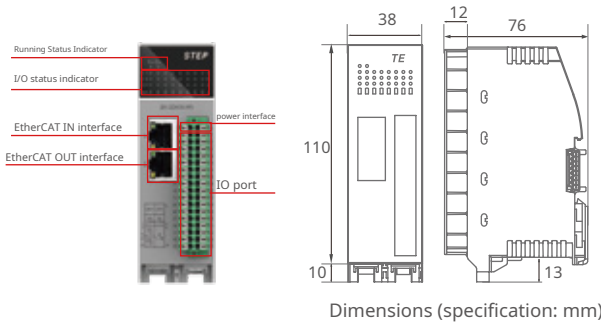
specification	model	SL-X8Y8A01
input channel		8 way
output channel		8 way
Rated input voltage		24V DC
input resistance		4.7KΩ
Working load voltage atmosphere		20.4~28.8V DC
Maximum load current		0.5A
Maximum Inrush Current		1A
OFF voltage/OFF current		24V/1mA
I/O power supply mode		1V以下
Maximum voltage drop when ON		
Protection function ON/OFF response time		> 0.01ms (less than 10K)
Insulation method		Optocoupler isolation
circuit protection		overcurrent, overvoltage, short circuit
public mode		Common anode connection, NPN
I/O refresh method		Synchronous I/O refresh or free-running refresh
Ambient temperature		- 20~55℃
Use environment humidity		10~90%, non-condensing
Save ambient temperature		- 20~80℃
使用海拔		0-2km (no limit) > 2km (environment temperature decreases by 0.5℃ every 100m)
degree of protection		IP20
pollution level		IE33
Atmospheric pressure		86~106Kpa
EMC anti-interference level		Implementation of EN61000-6-X standard

Local expansion analog module

specification	model	SL-AX4Y2A01
simulation	input channel	4 way
	Internal 5V Power Consumption	0.1A
	Voltage input impedance	10K
	Analog Voltage Input Range	0~10V
	resolution	12 bits
	sampling time	40μs/channel
	precision	0.005V
	Ultimate voltage	+15V
	Maximum common mode voltage between channels	15V
	isolation method	Compatibility between I/O terminals and power supply, between channels: non-isolated;
Voltage enter	output channel	2 way
	Internal 5V Power Consumption	0.1A
	Voltage output load	1KΩ~1MΩ
	Analog voltage output range	0~10V
	resolution	12 bits
	conversion time	40μs/channel
	precision	0.005V
	isolation method	Compatibility between I/O terminals and power supply, between channels: non-isolated;
	Output short circuit protection	none
	Output short circuit protection	none
Analog value range		0~4095
I/O power supply method		5V control power bottom bus, 24V terminal power supply
Ambient temperature		- 20~55℃
Use environment humidity		10~90%, non-condensing
Save ambient temperature		- 20~80℃
use altitude		0-2km (no limit) > 2km (the ambient temperature decreases by 0.5℃ every 100m)
degree of protection		IP20
pollution level		IE33
Atmospheric pressure		86~106Kpa
EMC anti-interference level		Implementation of EN61000-6-X standard

SX series remote expansion IO module

Product parameter table



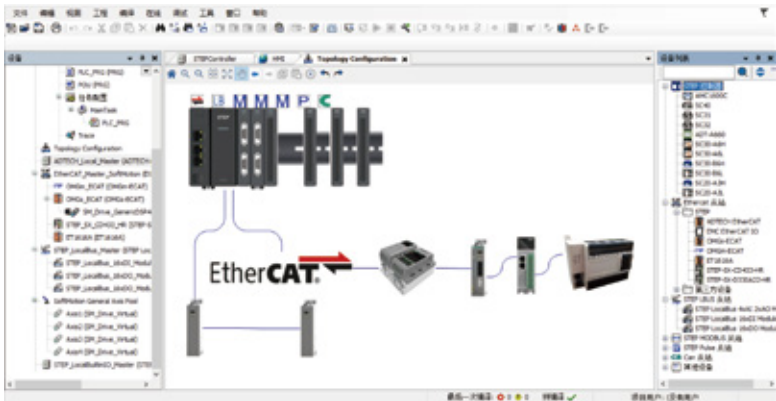
Dimensions (specification: mm)

Detailed specifications		SX-D330A22-HR	SX-CD433-HR
model			
DI specification	I/O refresh method	Synchronous I/O refresh or free-running refresh optional	Synchronous I/O refresh or free-running refresh optional
	Internal I/O sharing	8-way input (NPN/PNP)	16 bi-directional (NPN/PNP) + 8 optional input/output (PNP)
	Input voltage	DC24V+20%	DC24V+20%
	Input Current	7mA	7mA
	Voltage ON/Current ON	10V	10V
	OFF voltage/OFF current	0	0
	ON/OFF response time	0.05ms/0.1ms	0.05ms/0.1ms
	input filter time	100μs	100μs
	Insulation method	Optocoupler isolation	Optocoupler isolation
	I/O power supply method	external input	external input
DO specification	Protective function	Surge, overvoltage, overcurrent, anti-reverse connection, low voltage	Surge, overvoltage, overcurrent, anti-reverse connection, low voltage
	I/O refresh method	Synchronous I/O refresh or free-running refresh optional	Synchronous I/O refresh or free-running refresh optional
	Internal I/O sharing	8 outputs (PNP)	8-way output (PNP) + 8-way optional input/output (PNP)
	Input voltage	DC24V+20%	DC24V+20%
	load current	500mA per channel	500mA per channel
	Maximum Inrush Current	1000mA per channel	1000mA per channel
	ON/OFF response time	0.05ms/0.1ms	0.05ms/0.1ms
	Insulation method	Optocoupler isolation	Optocoupler isolation
	I/O power supply method	External power supply, only supports PNP output	External power supply, only supports PNP output
	I/O power terminal current capacity	Single channel 500mA; the maximum of the whole machine is 5A	Single channel 500mA; the maximum of the whole machine is 5A
AI specifications	power consumption	2W	2W
	Protective function	Surge, overvoltage, overcurrent, anti-reverse connection, low voltage	Surge, overvoltage, overcurrent, anti-reverse connection, low voltage
	I/O refresh method	Synchronous I/O refresh or free-running refresh optional	none
	input range	0~10V	none
	input channel	4 way	none
	Absolute Maximum Ratings	15V	none
	input resistance	100K	none
	overall accuracy	12bit	none
	conversion time	5μs	none
	conversion time	200μs	none
AO specifications	I/O refresh method	Synchronous I/O refresh or free-running refresh optional	none
	output channel	4 way	none
	output range	0~10V	none
	Allowable Load Resistance	5KΩ or more	none
	output impedance	100Ω	none
	overall accuracy	12bit	none
	conversion time	200μs	none
	conversion time	200μs	none
	Ambient temperature	- 20~55℃	- 20~55℃
	Use environment humidity	10~90%, non-condensing	10~90%, non-condensing
use environment	Save ambient temperature	- 20~60℃	- 20~60℃
	use altitude	0-2km (no limit) > 2km (the ambient temperature decreases by 0.5℃ every 100m)	0-2km (no limit) > 2km (the ambient temperature decreases by 0.5℃ every 100m)
	degree of protection	IP20	IP20
	pollution level	IE33	IE33
	Atmospheric pressure	86~106Kpa	86~106Kpa
	EMC anti-interference level	Implementation of EN61000-6-X standard	Implementation of EN61000-6-X standard
	EMC anti-interference level	Implementation of EN61000-6-X standard	Implementation of EN61000-6-X standard
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	EMC anti-interference level	Implementation of EN61000-6-X standard	Implementation of EN61000-6-X standard

related software

STEP Automation Studio

STEP Automation Studio (AS for short) is an integrated development software for STEP Group programmable controllers. Based on the IEC61131-3 programming language, it provides project management functions such as visual engineering configuration, debugging, monitoring, and project wizards, as well as the functions required for solutions such as UI configuration, PLCOpen, Motion library, and process packages.



Motion function library

- SAS Motion
- CNC+Robotics
- PLCOpenpart1/2/4 (electronic cam + shaft group)
- PSO high-end laser/dispensing
- fly shot

Programming language

- Support IEC61131-3 language: ST (Structured Text), LD (ladder diagram), FBD (function Block Diagram) SFC (Sequential Function Chart), CFC (Continuous Function Chart)
- Linux C/C

bus extension

- EtherCAT
- CANopen
- Modbus
- PROFINET

communication library

- FTP
- Socket
- HTTP
- serial port

Visual interface operation

- Supports cross-platform web design
- local display interface design
- Associate Motion function block

Simulation function

- Offline simulation run
- Servo Emulation
- 3D motion

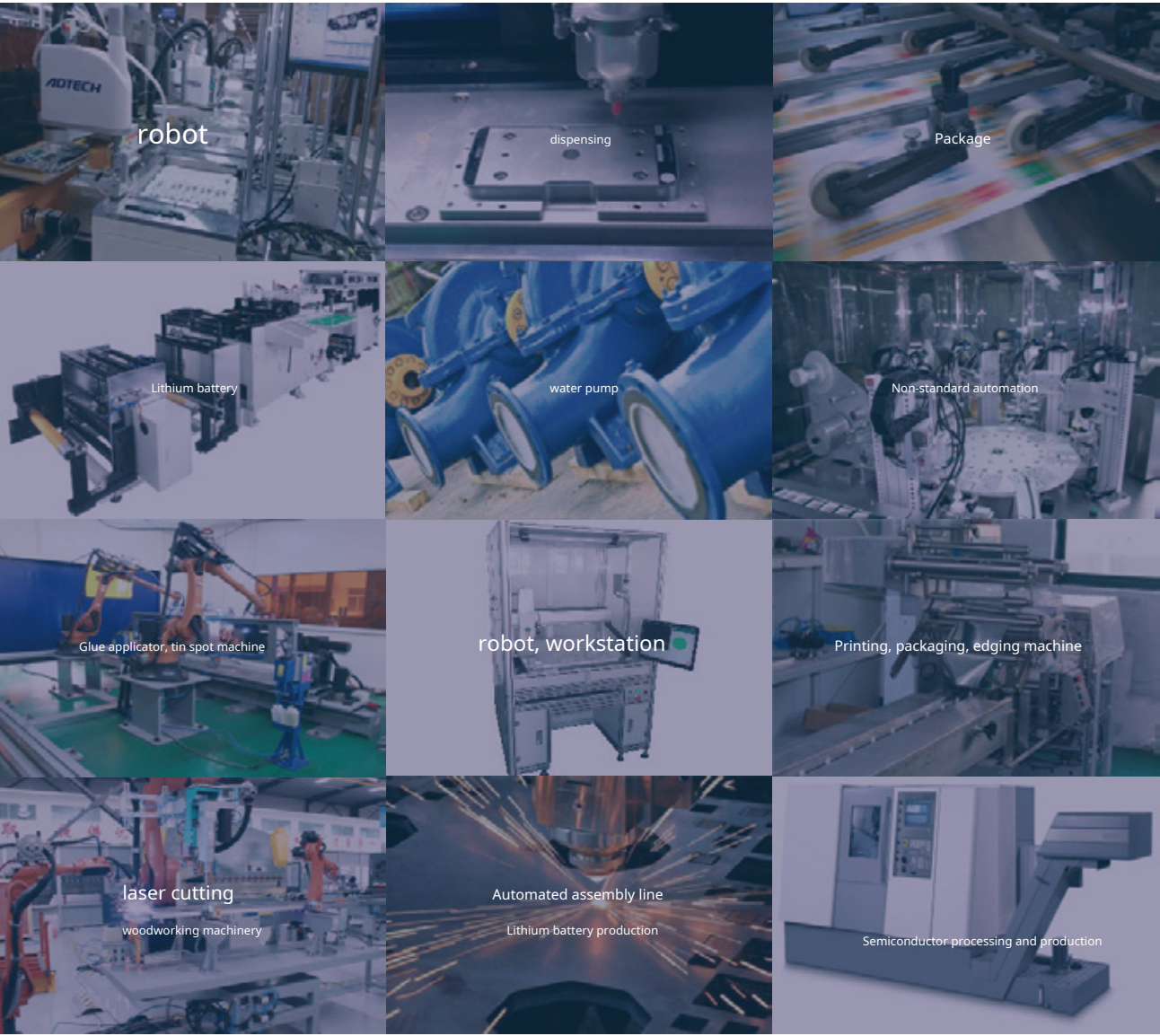
Software Integration Function

- process integration
- Project Wizard
- Library Function Integration
- Visual configuration
- STEP equipment library, customizable
- visual interface
- Language editor integration

Watch/TraceDebugging

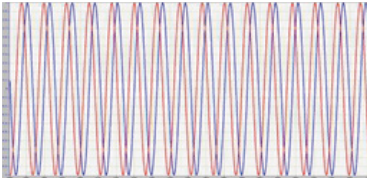
- Axis Trajectory Tracking
- Variable state tracking
- Support complex operations

Industry and equipment used

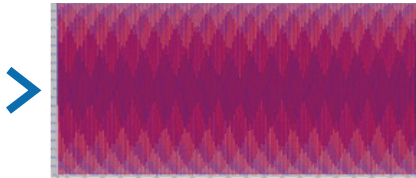


STEP Trace

STEP Trace not only supports debugging and trace display of system variables, but also supports mathematical operations and analysis between waveforms, such as average value, effective value analysis, FFT frequency domain analysis, etc.



FFT processing



Mathematical operations on the target