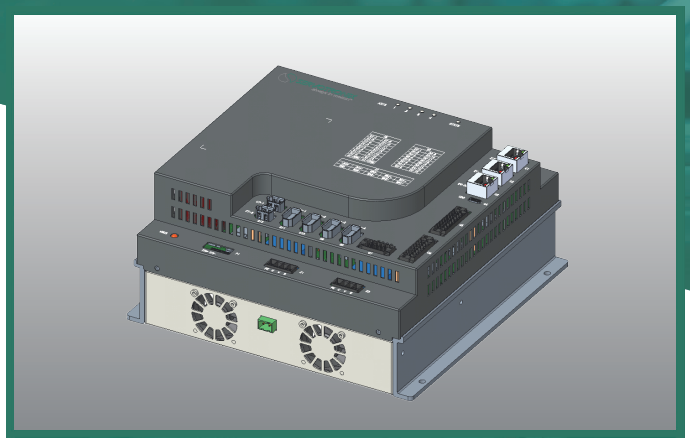
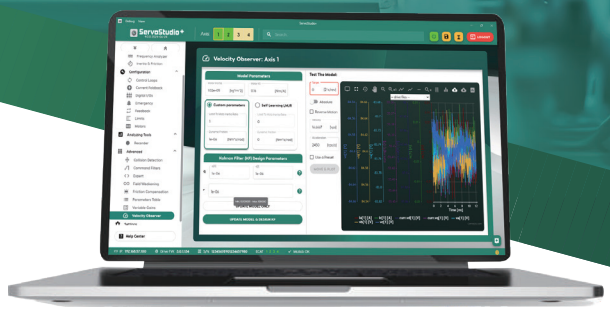
SERVOTRONIX

smartPX

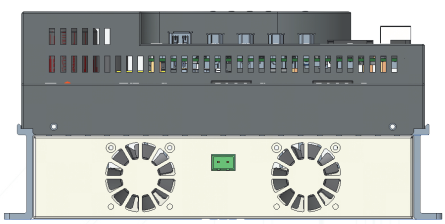
Multi-axis drive and control machine





Product Specifications

Product Model:	PX4B-2A32SL-MC
Input Voltage:	220 VAC (single-phase / three-phase)
Number of Axes:	4
Power:	750 W / 750 W / 750 W / 750 W
Dimensions:	230 mm × 230 mm × 115 mm
Digital Input I0:	16 channels, including 8 high-speed channels
Digital Output I0:	16 channels, including 8 high-speed channels
Brake Output:	4 channels



Key Characteristics

- **Integrated control unit:** Implement multiple robot control models: SCARA, Delta,TARM,PUMA, GSR, Palletizing Robot, Universal DH。
- **Embedded motion control:** Zero communication latency, multi-axis interpolation
- **Automatic Tuning:** Leveraging reciprocating motion-based self-tuning and frequency-domain analysis technologies to enable rapid system tuning.
- **Vibration Suppression:** By employing weak magnetic control, vibration suppression, and intelligent gain switching, the system's precision and response speed are significantly enhanced.
- **Safety Integration:** Integrates multiple safety protection mechanisms and collision detection to ensure the safety of both humans and machinery.
- **Intelligent O&M:** By integrating web-based debugging tools with AI cloud services, we significantly lower the barrier to entry and enable intelligent upgrades of equipment.
- **Encoders with tracking:** 2-channel, supporting AB incremental or BISS-C encoders



Functional characteristics

- **Motor type:** linear, DDR, rotary, voice-coil
- **Encoder type:** Morimatsu, AB, BISS-C
- **Automatic commissioning:** linear automatic tuning
- **Jitter suppression:** vibration suppression, input shaping filter
- **Gain switching:** 10 sets of gain tables
- **Frequency domain analysis:** system frequency domain analysis
- **Safety functions:** STO
- **Bus:** EtherCAT, 500 μs
- **Dynamic braking:** supported-Bus voltage: shared bus voltage
- **CE certifications:** EN61800-3, EN61800-5-1, EN50581

Application Scenarios:

- **Delta robot;**
- **SCARA robot;**
- **Cartesian coordinate applications;**
- **High-precision, complex motion trajectory applications**



Naming rule

PX – 6 A – 2A – 32 – S – L – M C

1 2 3 4 5 6 7 8

PX

1 Series Number

Identifier Letter	Meaning
PX	smartPX Series

2A

4 Voltage rating

Symbol	Specification
2A	single-phase 220 V, -10% to +10%, 50/60 Hz
4D	three-phase 380 V, -15% to +10%, 50/60 Hz

L

7 Motor Type

Symbol	Meaning
R	Restricted to rotary servo motors;
L	supports linear motors / rotary motors

6

2 Number of Axes

Symbol	Meaning
6	支持6轴
4	支持4轴

32

5 I/O Quantities

Symbol	Meaning
14	8 channels of DI, 6 channels of DO;
32	16 channels of DI, 16 channels of DO

C

8 Controller Type

Symbol	Specification
NN	Not implemented (pure drive);
MC	Soft, MC
CS	Codesys,
EM	Embedded motion control;
CC	Linux version
CA	SoftMC, Cabinet architecture

A

3 Current Rating Symbols:

Symbol	Number of Axes	Continuous Current (A rms)	Peak Current (A rms)	Input Voltage
A	1	4.5	13.5	220 VAC
	2	4.5	13.5	220 VAC
	3	3	9	220 VAC
	4	2	6	220 VAC
	5	2	6	220 VAC
	6	2	6	220 VAC
	Total Output Current	18A	18A	
B	1	4.5	13.5	220 VAC
	2	4.5	13.5	220 VAC
	3	4.5	13.5	220 VAC
	4	4.5	13.5	220 VAC
	Total Output Current	18A	18A	

S

6 Feedback Type

Symbol	Specification
T	supports Tamagawa/BISS-C/A-B incremental encoders with integrated interfaces;
S	supports Tamagawa/BISS-C/A-B incremental encoders with standalone interfaces.

*Some models under development. Contact sales for details.

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