

INDUSTRIAL PRODUCT DATASHEET

Bus Servo Driver Board for Seeed Studio XIAO

Compact Bus Servo Driver Board for Seeed Studio XIAO with UART/USB dual-mode control for ST/SC series servos, ideal for robotics and DIY projects.

SKU

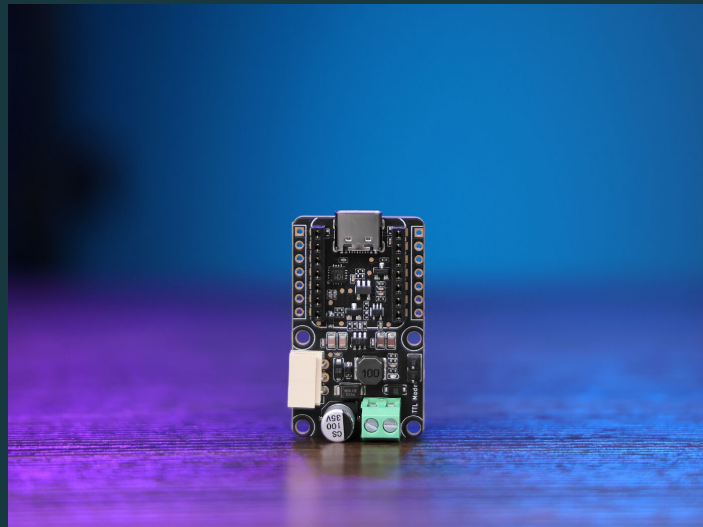
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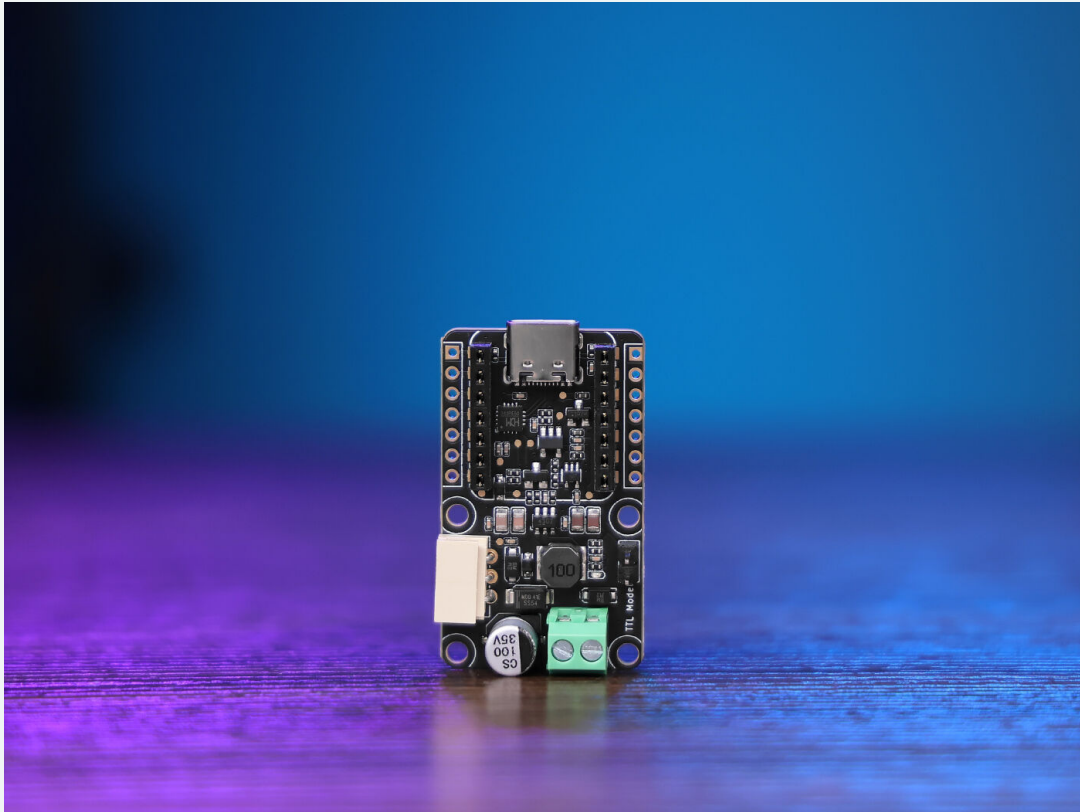
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PRICE

\$5.90(Excl. VAT)



Overview



The Bus Servo Driver Board for Seeed Studio XIAO controls ST/SC series serial bus servos via UART and USB dual-mode communication with a 2P 3.5mm screw terminal power input in a compact 42mm x 25mm form factor. It integrates with Seeed Studio XIAO development boards for robotic arms, hexapod robots, humanoid robots, wheeled robots, and DIY or educational projects; note that Arduino support for XIAO nRF54L15 is pending and official software is under development.

Key Features

Note:

This expansion board is currently not directly compatible with the XIAO nRF54L15 series because Arduino is not supported.

However, the hardware interface is fully compatible, and developers can manually adapt the software if needed.

Official software support from Seeed Studio is under development — stay tuned for updates!

- **Wide Compatibility:** Supports ST/SC series serial bus servos, making it versatile for various robot projects.
- **Flexible Control:** Offers UART and USB dual-mode communication, allowing easy control of multiple servos.
- **Professional Power Supply:** Equipped with a 2P 3.5mm screw terminal for secure and reliable power connections.
- **Compact Design:** Measures only 42mm x 25mm, ideal for integration into space-constrained projects.
- **Ecosystem Support:** Seamlessly integrates with Seeed Studio XIAO series development boards for expanded functionality.

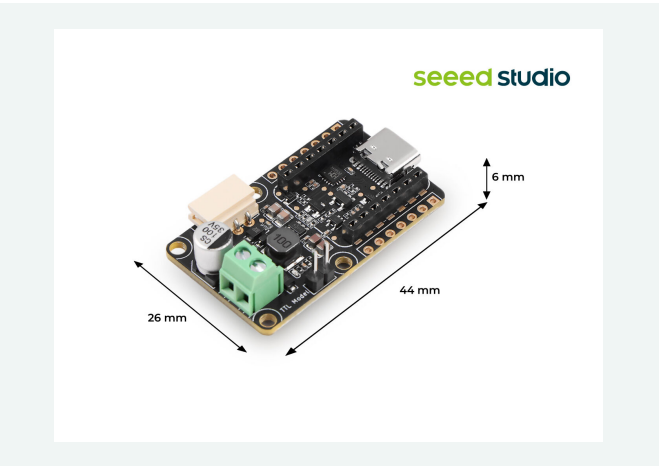
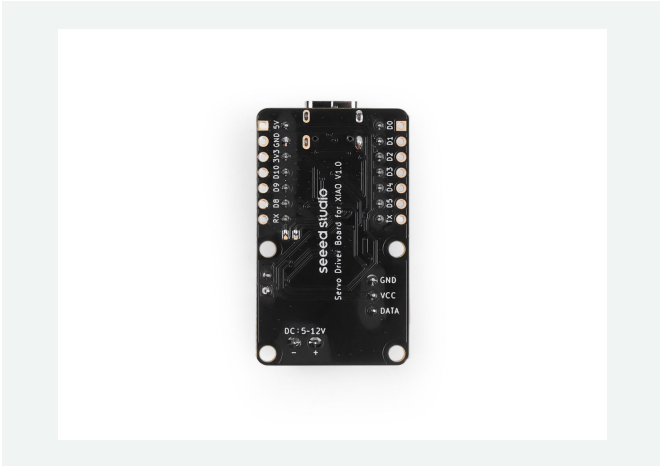
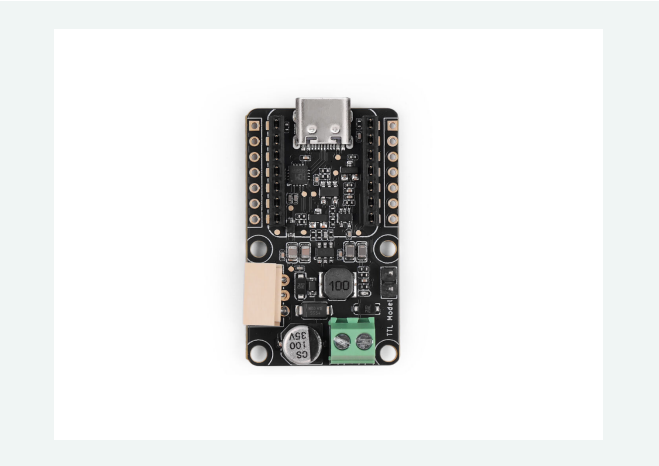
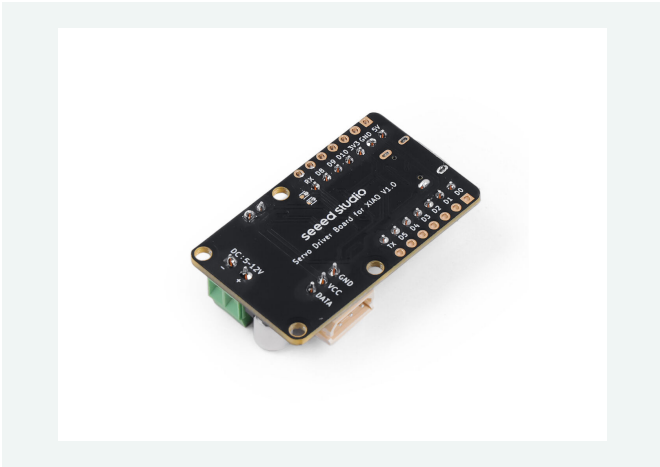
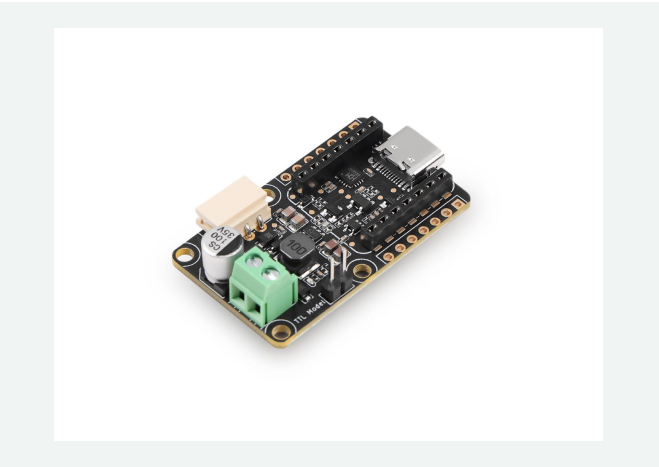
What is the Bus Servo Driver Board?

The Bus Servo Driver Board is a serial bus servo driver designed to manage and control servos operating on serial communication protocols (such as the ST/SC series). Through integrated control circuitry and communication interfaces, it converts user commands into servo actions, enabling coordinated multi-servo operation. Unlike traditional PWM control, serial bus technology provides more efficient communication and greater scalability, making it particularly suited for robotics projects requiring multiple servos. This driver board offers both UART and USB control options, allowing users to choose between embedded system integration or convenient desktop debugging based on their needs.

Advantages of the Bus Servo Driver Board

Compared to other servo control solutions, the Bus Servo Driver Board stands out with distinct advantages. First, its compact 42mm x 25mm size and elegant design make it easy to integrate into space-constrained projects without compromising performance. Second, its dual-mode communication (UART and USB) balances real-time performance with ease of use—users can embed it into complex systems via UART or perform rapid debugging via USB, eliminating cumbersome wiring. Additionally, it supports control of multiple servos with angle and load feedback, outperforming single-servo controllers in multi-degree-of-freedom applications. Paired with the Seeed Studio XIAO ecosystem, developers can quickly build feature-rich robotic systems, reducing the time from concept to prototype. Whether for education, research, or DIY creation, this driver board excels with its professional performance and user-friendliness.

Product Gallery

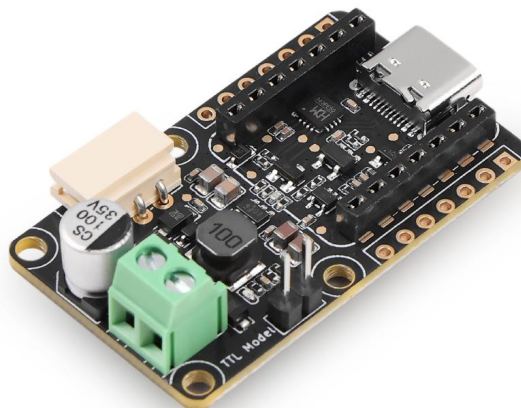


Specification

Name	Details
Compatible Servo Types	ST/SC series serial bus servos
Servo Control Quantity	Multiple

Control Interface	UART / USB
Communication Protocol	Serial bus protocol (compatible with ST/SC servos)
Input Voltage Range	5-12V DC (dependent on servo voltage)
Power Supply Interface	2P 3.5mm screw terminal
Servo Interface	2.5mm 3P terminal
Jumper Settings	UART/USB mode switching
Dimensions	42mm x 25mm
Weight	15g
Operating Temperature	• 10°C ~ 60°C

Hardware Overview



Applications

- **Robotic arms:** Supports serial bus servo driving for robotic arms (such as the SO-ARM100 Low-Cost AI Arm Servo Motor Kit for LeRobot and SO-ARM100 Low-Cost AI Arm Servo Motor Kit Pro for LeRobot).
- **Hexapod robots:** Enables servo control in hexapod robots.
- **Humanoid robots:** Provides servo driving for humanoid robots.
- **Wheeled robots:** Assists wheeled robots with servo support.
- **DIY and educational projects:** Facilitates servo use in DIY and educational projects.

Compliance & Logistics

HSCODE	8503001000
USHSCODE	8526910020
UPC	
EUHSCODE	8471707000
COO	CHINA

Resource Links

- <https://www.seeedstudio.com/Bus-Servo-Driver-Board-for-XIAO-p-6413.html>
- [PCB](#)

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