

ELECFREAKS Launches micro:bit PU Robot with Reinforced Protection and Intelligent Interactive Features

A durable six-axis bionic robot with reinforced protection, intelligent interaction, and expandable building options for coding and robotics learning.

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/EINPresswire.com/ -- [ELECFREAKS](#), a leading global provider of STEM education solutions, today announced the launch of the micro:bit [PU Robot](#) Kit. This groundbreaking six-axis bionic programmable robot is designed for children aged 8 and above. By combining high-precision all-metal servos with intelligent algorithms, the PU Robot merges complex bionic movements with engaging interactions, providing a teaching platform that is both lifelike and exceptionally durable.



Many high-performance educational robots are fragile. Classroom drops or loose connections often result in costly repairs, interrupting teaching and limiting hands-on learning."

*Song, Product Manager at
ELECFREAKS*

As STEM education continues to evolve, educators are looking for robotics platforms that combine durability, engagement, and ease of use. The micro: bit PU Robot was designed to meet these needs by providing students with a reliable, interactive, and programmable companion that encourages hands-on exploration and creative learning.

Built to withstand the demands of classroom environments while delivering lifelike bionic movements and intelligent interactions, the PU Robot helps students spend less time troubleshooting hardware and more time

developing coding, problem-solving, and engineering skills.

By incorporating screw-secured acrylic shells, industrial-grade metal servos, and a unique drop-



Custom Acrylic Shield Protects the micro:bit Controller

protection mechanism, we have provided a truly 'rugged' platform for schools. More importantly, it breaks the cold, mechanical feel of traditional robots. Through instant bionic feedback, it allows students to shift their energy from basic mechanical maintenance to core logical creation.

Key Features of the micro:bit PU Robot

1. Comprehensive Hardware Reinforcement:

- Core Armor: The micro:bit controller is protected by a custom acrylic shell and secured with screws, completely eliminating common classroom issues like scratched boards, loose interfaces, or accidental detachment.
- Drop Protection: The structural design allows the robot to automatically curl inward upon sensing a fall. Combined with the full protective shell, it effectively absorbs impact to protect internal cables and core electronic components.

2. Industrial-Grade Motion Control:

- Six-Axis Metal Servos: Unlike common plastic servos, the PU Robot utilizes six all-metal gear servos. These provide smoother, high-precision motion transitions while ensuring an extended lifespan in high-intensity educational environments.
- Self-Balancing Head: This system ensures the robot's head remains dynamically stable while walking, turning, or dancing, mimicking the advanced equilibrium characteristics of biological organisms.

3. Intelligent Sensing & Multi-Modal Interaction:

- Out-of-the-Box Experience: Preloaded with various actions such as dancing, playing soccer, and obstacle avoidance, allowing students to experience the charm of bionic movement instantly without complex initial programming.
- Autonomous Interaction: Features Music Dance Mode (adjusting dance moves in real-time to detected rhythms) and Auto-Explore Mode (ultrasonic-based obstacle avoidance), allowing it to explore complex spaces independently.
- Idle Interactions: When left alone, the robot performs subtle movements like nodding or



Music Dance Mode Enables Real-Time Rhythm-Based Interaction



Built with Six All-Metal Servos for Precision and Long-Term Reliability

swaying accompanied by cute sound effects, building a deeper emotional connection between the student and the technology.

4. Versatile Educational Extensibility:

- LEGO Compatibility: The PU Robot features standard mechanical interfaces, making it fully compatible with mainstream building blocks. This allows students to customize the exterior or add functional modules, making it suitable for everything from basic coding to advanced AI exploration.

Availability and Pricing

The micro:bit PU Robot is now officially available on the ELECFREAKS official store at a retail price of \$190 USD. For more technical specifications or to purchase, please visit:

<https://shop.electfreaks.com/products/electfreaks-micro-bit-pu-robot-kit>

About ELECFREAKS

Founded in 2011, ELECFREAKS is an official global partner of the micro:bit Educational Foundation. The company is dedicated to lowering the barriers to programming education through technological innovation. By focusing on the real-world pain points of teachers and students, ELECFREAKS has developed a diverse ecosystem of sensor modules, smart cars, and bionic robots. Today, ELECFREAKS solutions are used in over 100 countries, empowering millions of students to master algorithmic logic and turn their creative ideas into reality.

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