



# NANO SERIES™

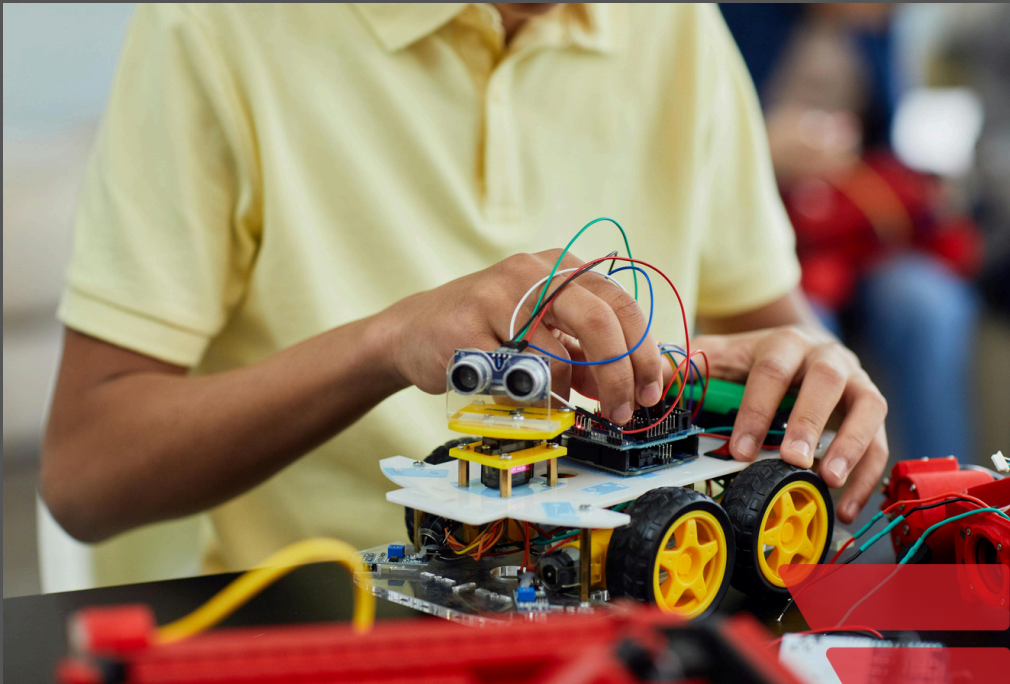
Small Robots. Big Potential

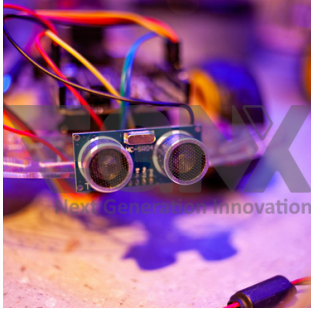
[www.e-gnx.com](http://www.e-gnx.com)

# EGNX Nano™ Series

The **EGNX Nano™ Series** is purpose-built for the next generation of **engineers, developers, and problem-solvers**. From **primary schools** to vocational training **institutes**, **Nano™** enables hands-on robotics education with a strong focus on **creativity, programming, and experimentation**. Designed to be **modular, curriculum-ready**, and open-source compatible, it's the perfect platform for early **STEM** engagement.

---





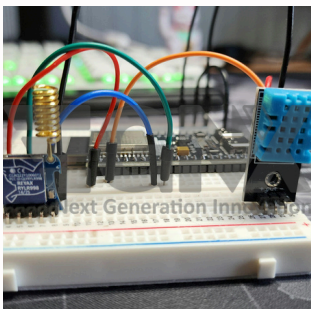
## NanoGo™

An all-in-one entry-level wheeled robot for students and educators. Features sensors, motors, and beginner-friendly programming. Perfect for classroom learning, workshops, and STEM clubs.



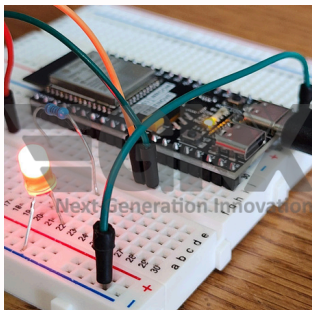
## NanoArm™

A desktop robotic arm with up to 6 degrees of freedom. Ideal for teaching motion control, kinematics, and basic automation. Compatible with Arduino, Python, and Raspberry Pi.



## NanoSense™

A modular sensor pack that includes light, IR, ultrasonic, gas, and temperature sensors. Enables hands-on experimentation with automation, smart behavior, and data collection.



## NanoBrain™

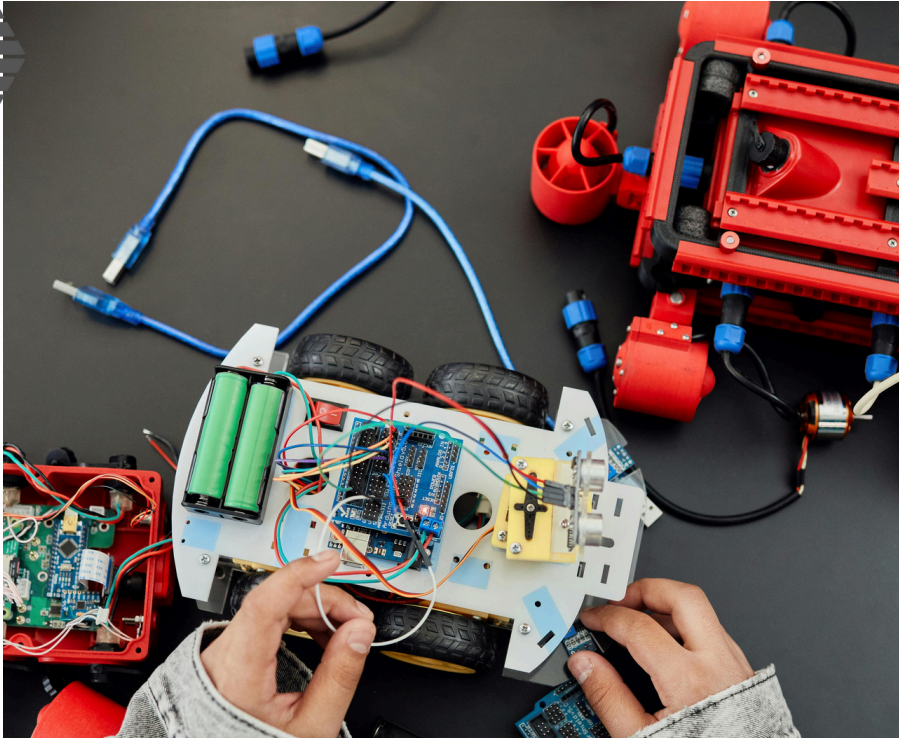
A programmable microcontroller board with built-in drivers, wireless communication, and plug-and-play ports for sensors and motors. Designed to be the "brain" of any Nano project.



## NanoKit™

A comprehensive robotics education package combining NanoBrain™ controller with essential components, sensors, and curriculum materials. Perfect for schools and training centers looking for an all-in-one solution to implement robotics programs.





## NanoGo™

Your gateway to mobile robotics

### Key Features:

- Plug-and-play setup
- Beginner-friendly programming interface
- Obstacle avoidance capabilities
- Remote control functionality
- Curriculum integration ready



## Technical Specifications:

- Dimensions: 180mm × 150mm × 95mm (L × W × H)
- Weight: 650g
- Drive System: Differential drive with 2 TT motors + ball caster wheel
- Motors: TT Gearmotor 1:48 (6V, 200RPM, widely available in Egypt)
- Maximum Speed: 0.3 m/s
- Battery Life: 4-6 hours continuous operation
- Battery: 7.4V 2200mAh Li-ion battery pack
- Charging: USB-C charging with TP4056 module
- Payload Capacity: 500g
- Built-in Sensors: HC-SR04 ultrasonic, MPU6050 IMU, LDR light sensors (2), IR line sensors (5), passive buzzer, WS2812 RGB LEDs
- Programming Languages: Scratch-based visual programming, Python, Arduino C++
- Connectivity: WiFi 802.11n, Bluetooth 4.2, USB-C
- Main Controller: ESP32-WROOM-32 development board
- **Age Range: 8-16 years**



# . NanoArm™

Small scale. Big learning.

## Key Features:

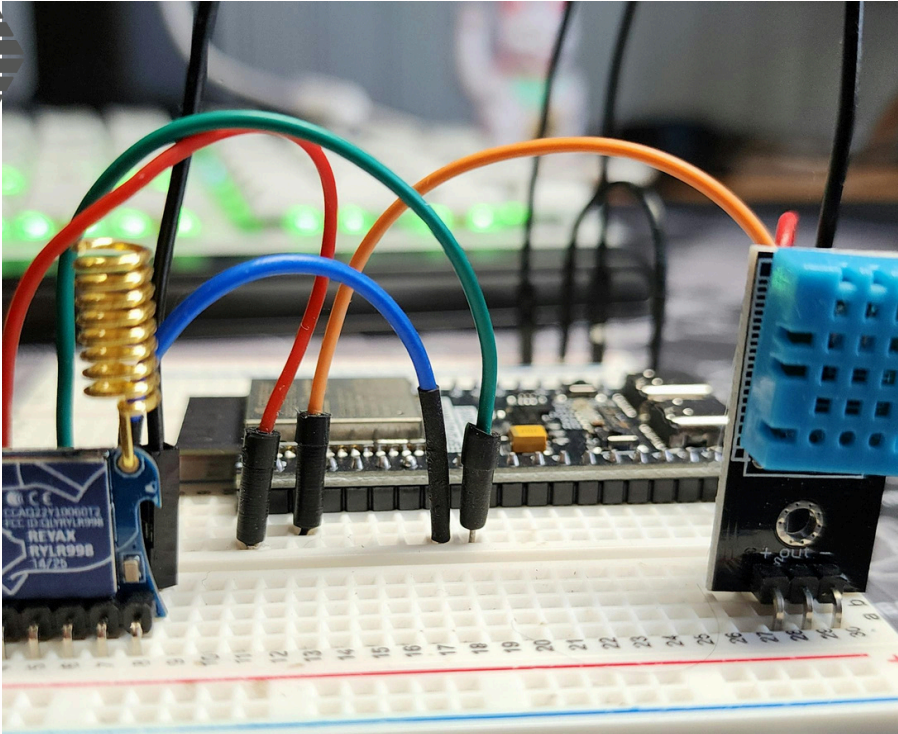
- Modular joint design
- Visual programming interface
- Inverse kinematics support
- End-effector compatibility
- Real-time control capability





## Technical Specifications:

- Degrees of Freedom: 4 DOF (Standard) / 6 DOF (Pro version)
- Reach/Working Envelope: 350mm radius
- Payload Capacity: 200g at full extension
- Positioning Accuracy:  $\pm 2\text{mm}$
- Joint Motors: MG996R servo motors (metal gear, 20kg-cm torque)
- Base Motor: High-torque servo motor for rotation
- Control Interface: Arduino, Python, Raspberry Pi compatible
- Power Requirements: 12V DC, 3A adapter included
- Controller: Arduino Mega 2560 R3 (CH340 version)
- Dimensions: 420mm  $\times$  280mm  $\times$  150mm (assembled)
- Weight: 1.2kg
- Material: 3mm laser-cut acrylic frame with 3D-printed PLA joints
- Safety Features: Emergency stop button, current limiting
- Programming Environment: Visual block programming + Arduino IDE
- **Age Range: 12-18 years**



## NanoSense™

Enhance your robots with real-world awareness

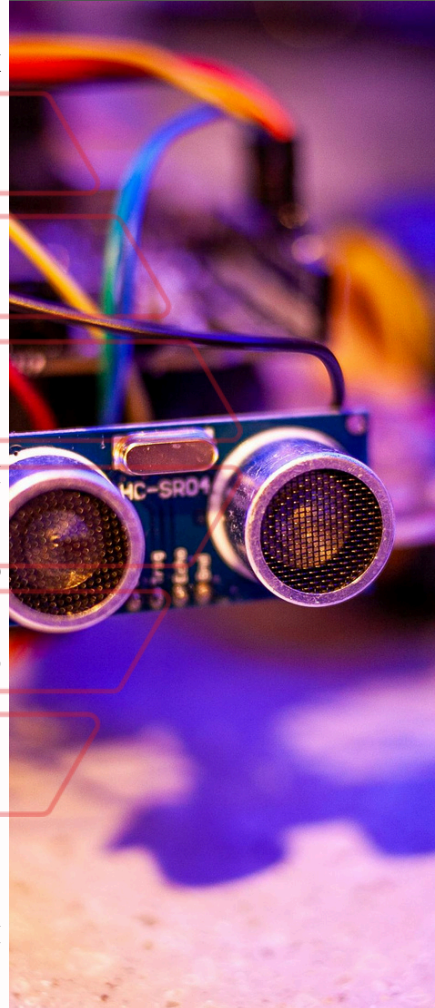
### Key Features:

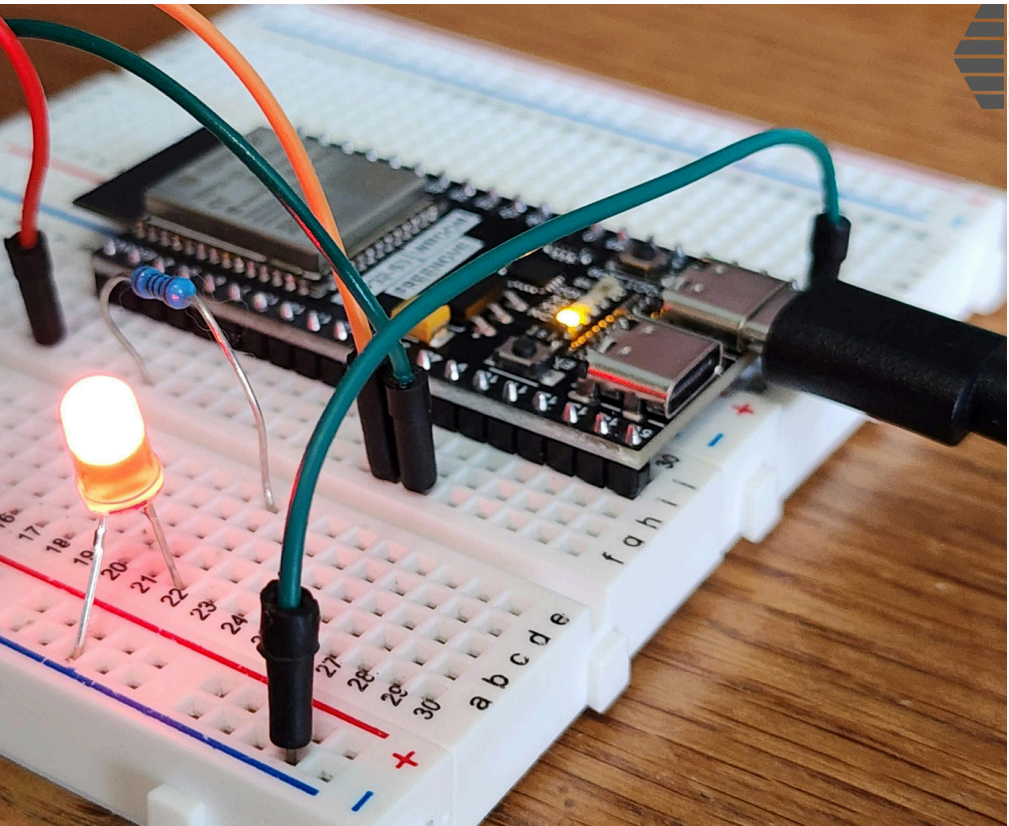
- Plug-and-play connectivity
- Real-time data visualization
- Calibration tools included
- Educational software package
- Cross-platform compatibility



## Technical Specifications:

- Sensor Types Included:
  - Light sensor: 0-1000 lux range, 16-bit resolution
  - IR sensor: 10-80cm detection range, digital/analog output
  - Ultrasonic sensor: 2-400cm range, 3mm resolution
  - Gas sensor: CO, CO<sub>2</sub>, alcohol, smoke detection
  - Temperature sensor: -40°C to +85°C, ±0.5°C accuracy
  - Humidity sensor: 0-100% RH, ±3% accuracy
  - Sound sensor: 30-130 dB range
- Interface: I2C, SPI, digital/analog GPIO
- Power Requirements: 3.3V/5V, 200mA max
- Operating Temperature: -20°C to +70°C
- Dimensions: Individual sensors: 25mm × 15mm × 8mm
- Compatibility: Arduino, Raspberry Pi, NanoBrain™, micro:bit
- **Age Range: 10-18 years**





## NanoBrain™

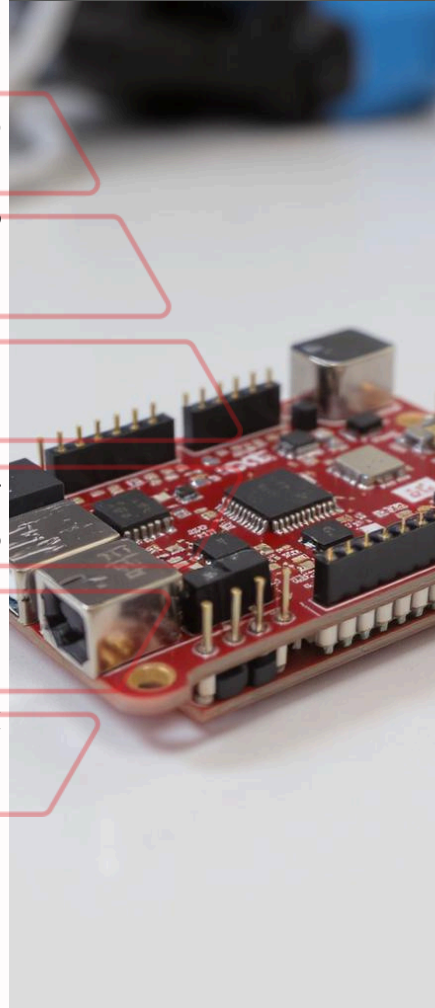
The intelligent control hub for  
robotics projects

### Key Features:

- Easy programming
- Real-time monitoring
- Expandable I/O ports
- Educational curriculum integration



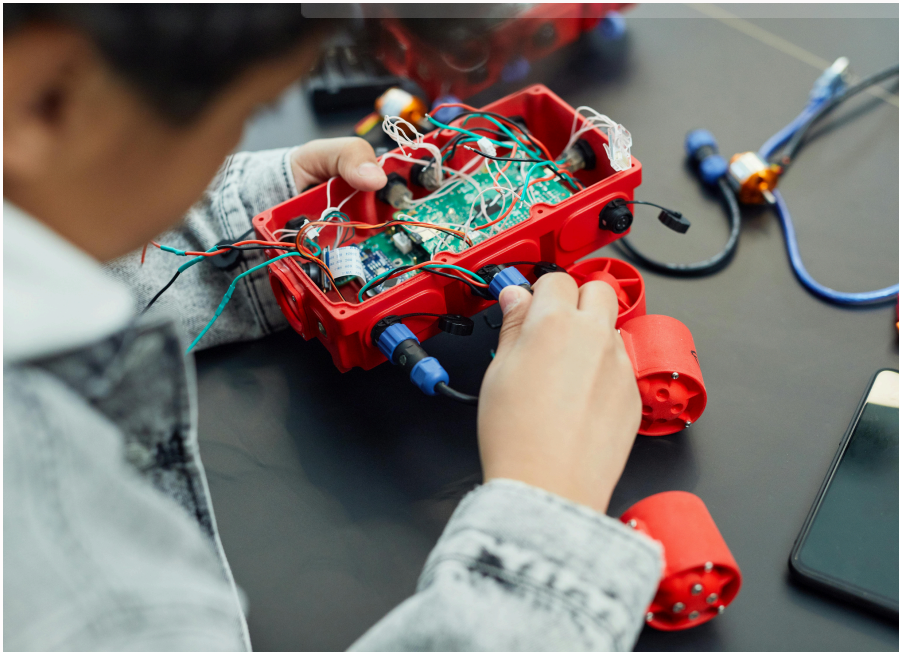
## Technical Specifications:



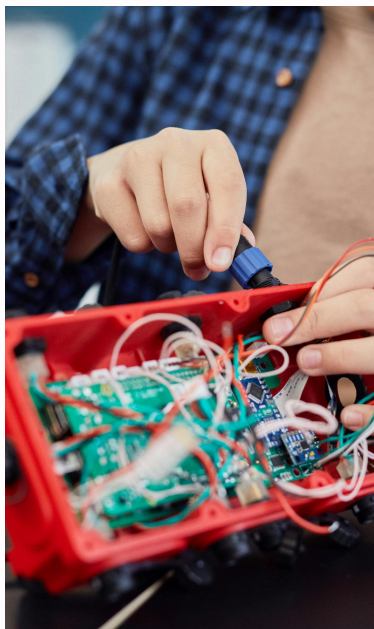
# NanoKit™ – Everything you need to start teaching robotics

## **Educational Integration:**

- Curriculum guides included
- Teacher training resources
- Student project templates
- Assessment tools





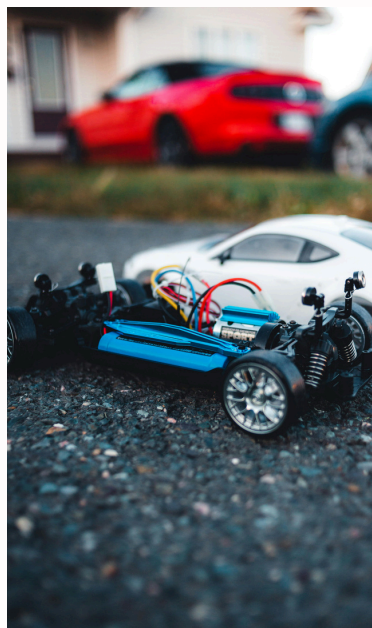


### Kit Contents:

- 1× NanoBrain™ controller
- 1× Chassis kit
- 1× NanoSense™ sensor pack
- 1× Servo motor kit (4 servos)
- 1× Construction components (beams, connectors, brackets)
- 1× Power supply and battery pack
- 1× USB programming cable
- 1× Comprehensive curriculum guide
- 1× Teacher training materials

### Cross-Product Compatibility:

- All Nano™ products are designed to work seamlessly together
- Universal connector system for easy assembly
- Shared programming environment across all products





## **Technical Specifications:**

- Complete Projects: 15+ guided projects included
- Curriculum Hours: 40+ hours of structured learning
- Student Capacity: Designed for 2-4 students per kit
- Age Range: 10-16 years
- Programming Platforms: Visual blocks, Python, Arduino C++
- Assessment Tools: Built-in progress tracking and evaluation rubrics
- Storage: Organized carrying case included
- Warranty: 2 years educational warranty
- Support: Online teacher portal with video tutorials

## **Supported Programming Languages:**

- Visual Programming: Scratch-based drag-and-drop interface
- Python: Full Python 3.8+ support with robotics libraries
- Arduino C++: Traditional embedded programming
- JavaScript: Web-based programming for advanced users



# Empowering Young Minds to Build Tomorrow

Join the Nano™ Revolution and bring the  
future of STEM education to your  
classroom today.

[www.e-gnx.com](http://www.e-gnx.com)