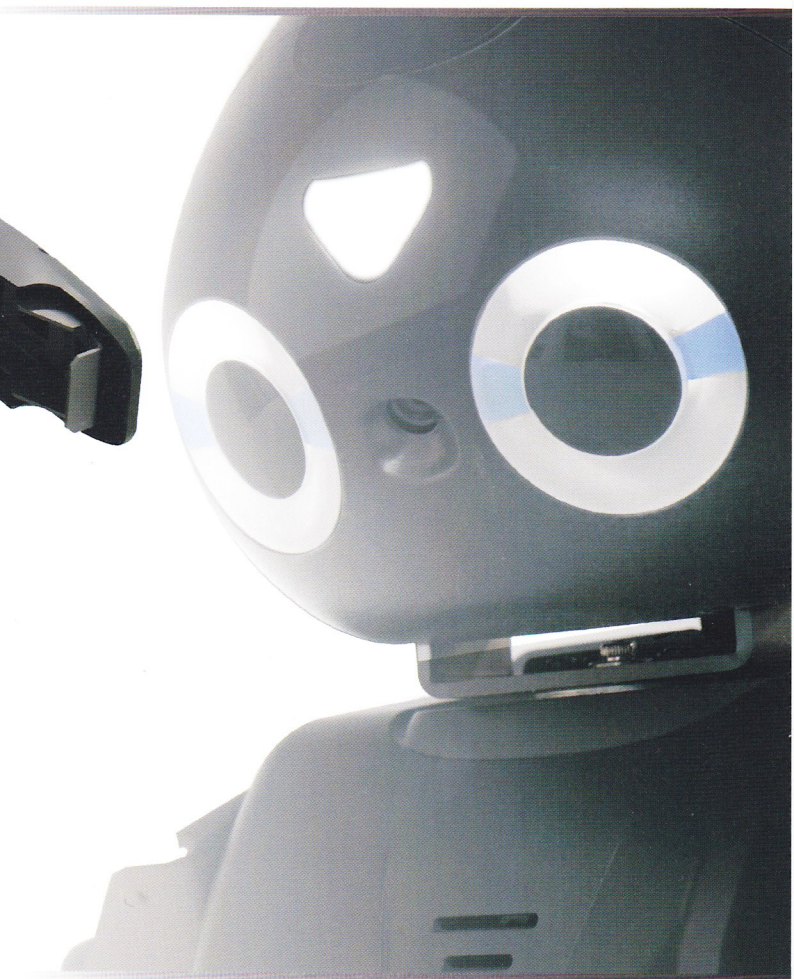


Open Platform Humanoid Project

DARwin-OP

DARwin-OP (Dynamic Anthropomorphic Robot with Intelligence-Open Platform) is an affordable, miniature-humanoid-robot platform with advanced computational power, sophisticated sensors, high payload capacity, and dynamic motion ability to enable many exciting research and education activities.



R&D Collaborators •



VirginiaTech

PURDUE
UNIVERSITY

Penn
Engineering

ROBOTIS

DARWIN-OP

1. Standard PC-based Robot with Convenient Interfaces

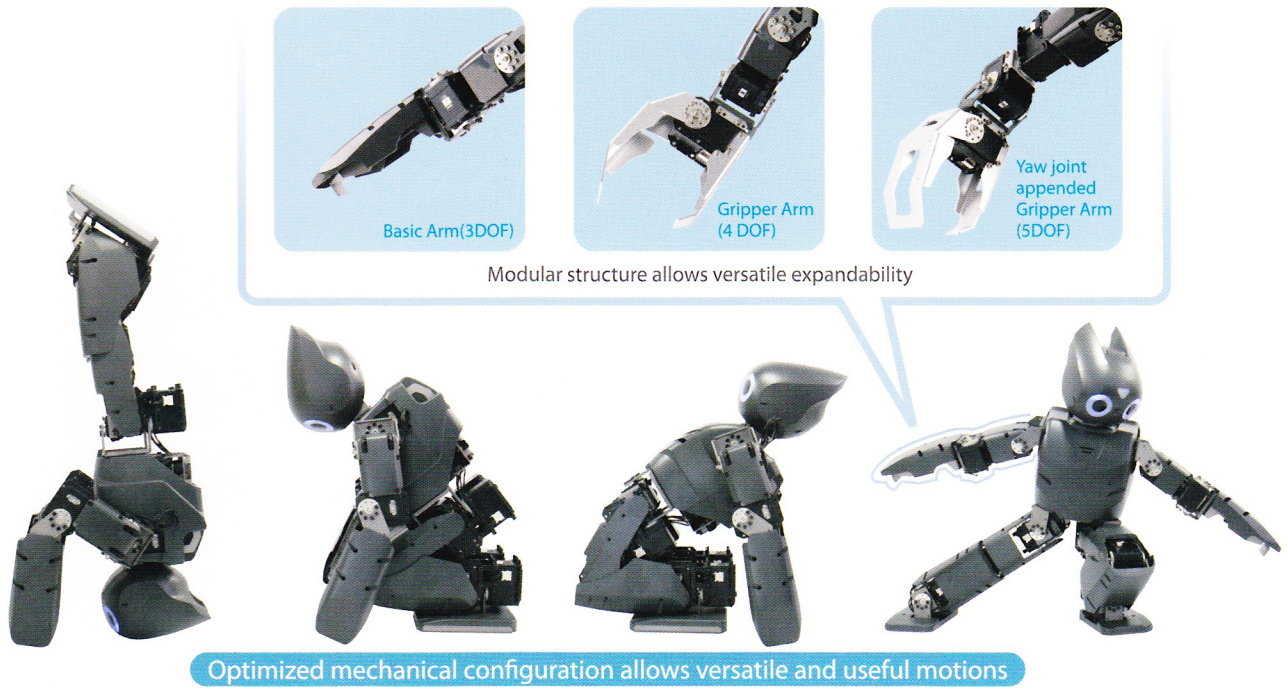


2. High Performance and Advanced Features

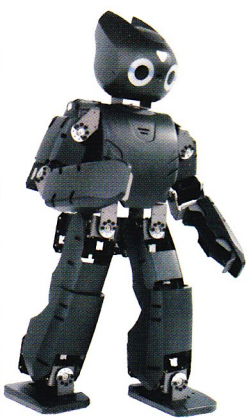
- Default walking speed: 24.0 cm/sec (9.44 in/sec) 0.25 sec/step - user modifiable gait
- Default standing up time from ground: 2.8 sec (from facing down) and 3.9 sec (from facing up) - user modifiable speed
- Built-in PC: 1.6 GHz Intel Atom Z530 on-board 4GB flash SSD
- Management controller (CM-730): ARM CortexM3 STM32F103RE 72MHz
- 20 actuator modules (6 DOF leg x2+ 3 DOF arm x2 + 2 DOF neck)
- Actuators with durable metallic gears (DYNAMIXEL MX-28)
- Self-maintenance kit (easy to follow steps and instructions)
- Standby mode for low power consumption
- 3Mbps high-speed Dynamixel bus for joint control
- Battery (30 minutes of operations), charger, and external power adapter
- (Battery can be removed from robot without shutting down by plugging in external power before removal)
- Versatile functionality (can accept legacy, current, and future peripherals)
- 3-axis gyro, 3-axis accelerometer, button x3, detection microphone x2

⇒ For up-to-date information, check e-Manual (<http://support.robotis.com>)

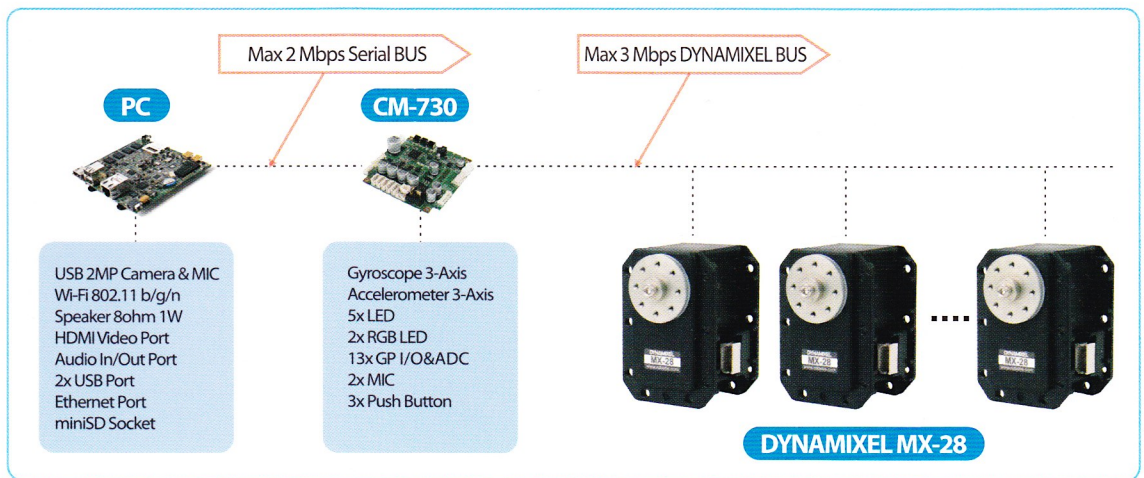
3. Efficient and Versatile Modular Configuration



4. Simple and Clean Architecture



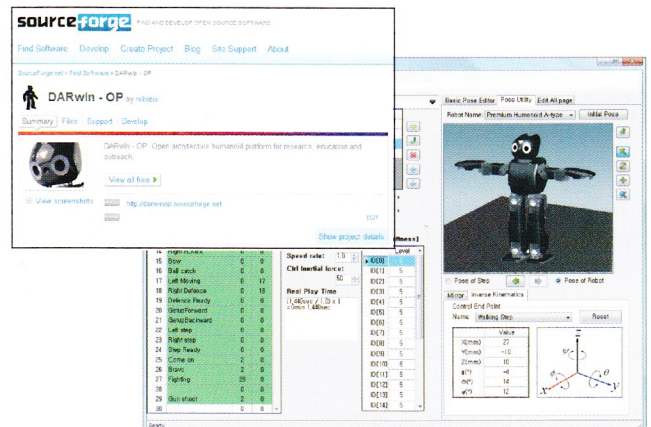
DARwin-OP



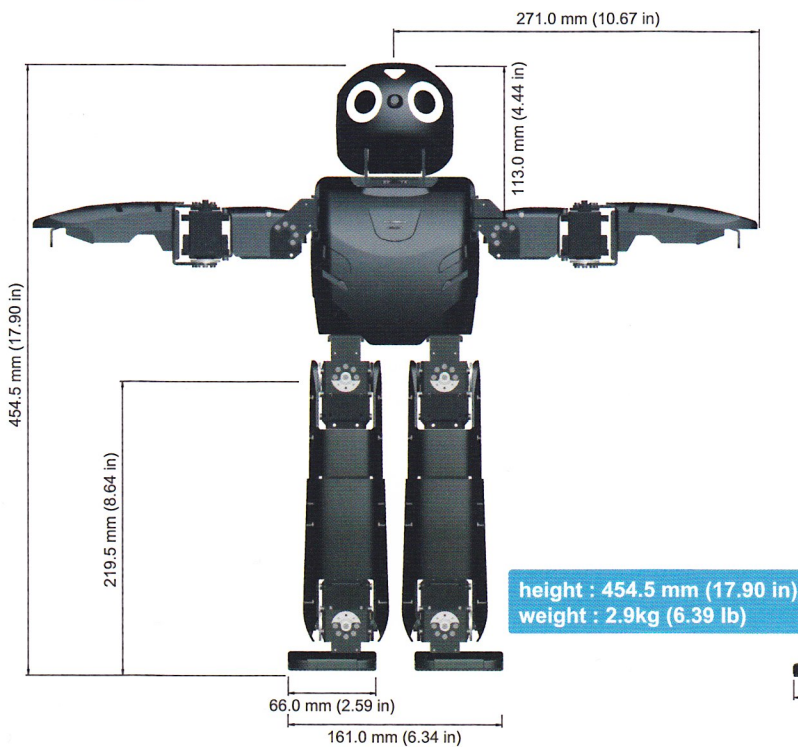
5. Open Platform (Hardware and Software)

<http://sourceforge.net/projects/darwinop>

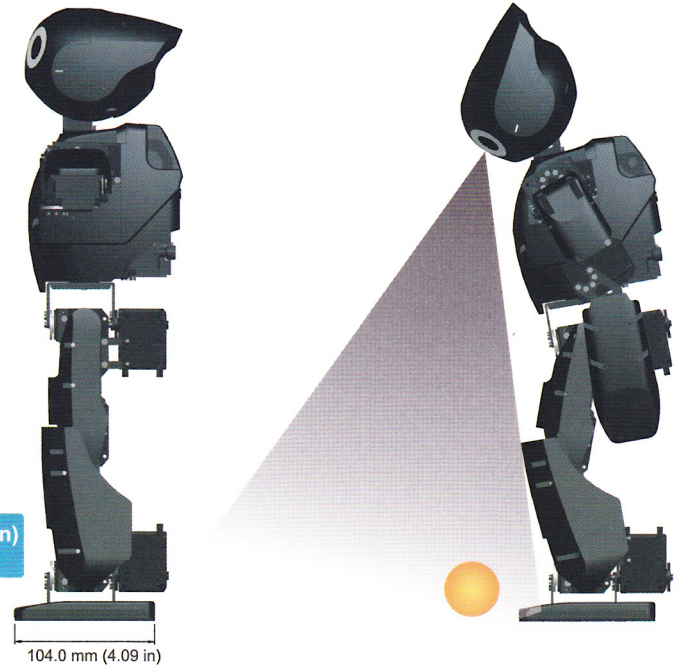
- Mechanics Information (Dimensions, Kinematics, Dynamics, CAD data)
- Electronics Information (Controllers, Sub B/Ds, Schematics, Part Information)
- Software Information (Development Environment, Framework, Source Code)
- Management Information (Detailed Assembly Diagrams, User Maintenance Guide)
- Community Resources (User-developed Code, Various Application Examples)



6. Dimensions and Weight



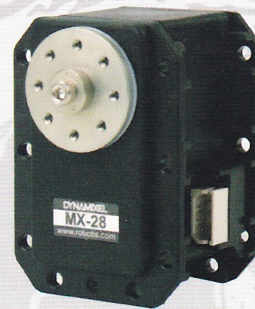
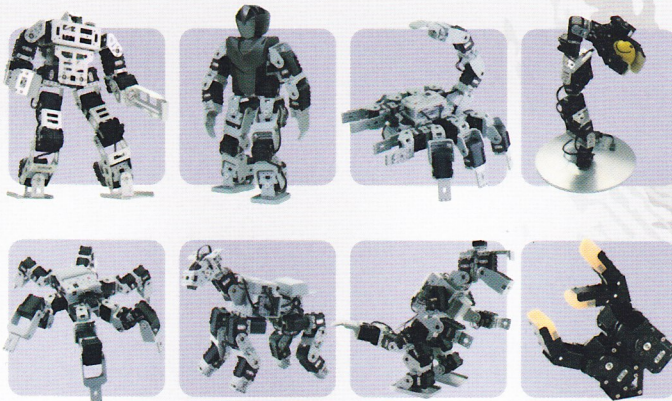
Wide-angle view allows plentiful coverage



DYNAMIXEL

- Specialized robot all-in-one actuator for robotic applications
- High speed bus and simple wiring
- Various models, mechanical links, and accessories

DYNAMIXEL applications



DYNAMIXEL MX-28 for DARwIn-OP

- Maxon RE-Max customized DC motor
- 193:1 reduction ratio
- Up to 3 Mbps buffered TTL interface
- User programmable PID Gain
- Up to 4096 resolution magnetic potentiometer

SMD

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各種書類の書式やお支払い条件などについて対応が可能です。

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