AML CRUSTCRAWLER SG5-UT Robotic Arm (5 axis).

The robotic Arm & Development SG5-UT servos are upgradeable to any standard size, high torque analog/digital servo including the robot servo.

The full kit included :-

- **SG5-UT hardware kit. 1 nos.**
- **SG5-UT assembly manual. 1 nos.**
- **HS-645MG/GWS ultra torque servo or equivalent . 1 nos.**
- **HS-805 BB /GWS servo or equivalent. 1 nos.**
- **HS-475H/GWS Heavy duty servo or equivalent. 3 nos.**
- **BASIC STAMP BS2/P24. 1 nos.**
- **Board of education. 1 nos.**
- **Parallax servo controller. 1 nos.**
- **6V-35 watt power supply. 1 nos.**
- **Serial cable. 1 nos.**

SPECIFICATION

Gripper : Inside width 3.25" (8.26cm).
Depth 3.25" (8.26cm).
Hight 1.12"(2.85cm).

ARM reach : 19.5" (49.53cm).

Base to elbow pivot holes C/L(centre line) to C/L : 4 7/8" (20cm).

Wrist pivot hole C/L to center of gripper : 7" (17.8cm).

HS-645MG super torque gear servo(Elbow) : 3 pole motor metel gear dual ball bearing.
OR **equivalent**
Torque at 4.8V : 106.93 oz-in(7.7kg-cm).
Torque at 6.0V : 133.31 oz-in(9.6kg-cm).
Speed at 4.8V : 0.24 sec/60˚
Speed at 6.0V : 0.19 sec/60˚
1.59 x 0.77 x 1.48in.
Dimension : 40.6 x 19.8 x 37.8mm.
Weight : 60kg.

HITEC HS-805BB(Bicep) ¼ scale dual ball bearing custom IC, water tight case (not water prof). OR **equivalent**.
Torque at 4.8V :224 oz-in(16.0kg-cm).
Torque at 6.0V : 343 oz-in (24.7kg-cm).
Speed at 4.8V : 0.20 sec.
Speed at 6.0V : 0.14 sec.
Dimension : 66 x 30 x 58mm.
Weight : 152g, 5.4oz.

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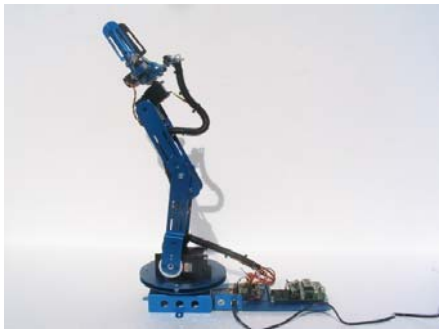
Max lift capacity : 14.23oz(403.41g).
Joint rotation : ~ 180 degree.
Elbow ro wrist pivot holes C/L to C/L : 5.5" (14cm).
Weight (Including servos) : 2.34 lbs (1.06kg).
HS-475HB standard deluxe servo (rotating base, wrist & gripper), 3 pole motor KARBONITE gear ball bearing. OR **equivalent.**

Torque at 4.8V : 61.1oz (4.4kg- kg-cm).
Torque at 6.0V : 76.37 oz (5.5kg- cm)
Speed at 4.8V : 0.23sec/60 °
Speed at 6.0V : 0.18sec/60°
Dimension : 38.8 x 19.8 x36mm.
Weight : 1.41oz, 40g.

Accesorries : Infrared distance detection kit.
5V regulator kit.
3300 NiMh battery.
Battery charger.
BOE power supply.
SERVO power supply.

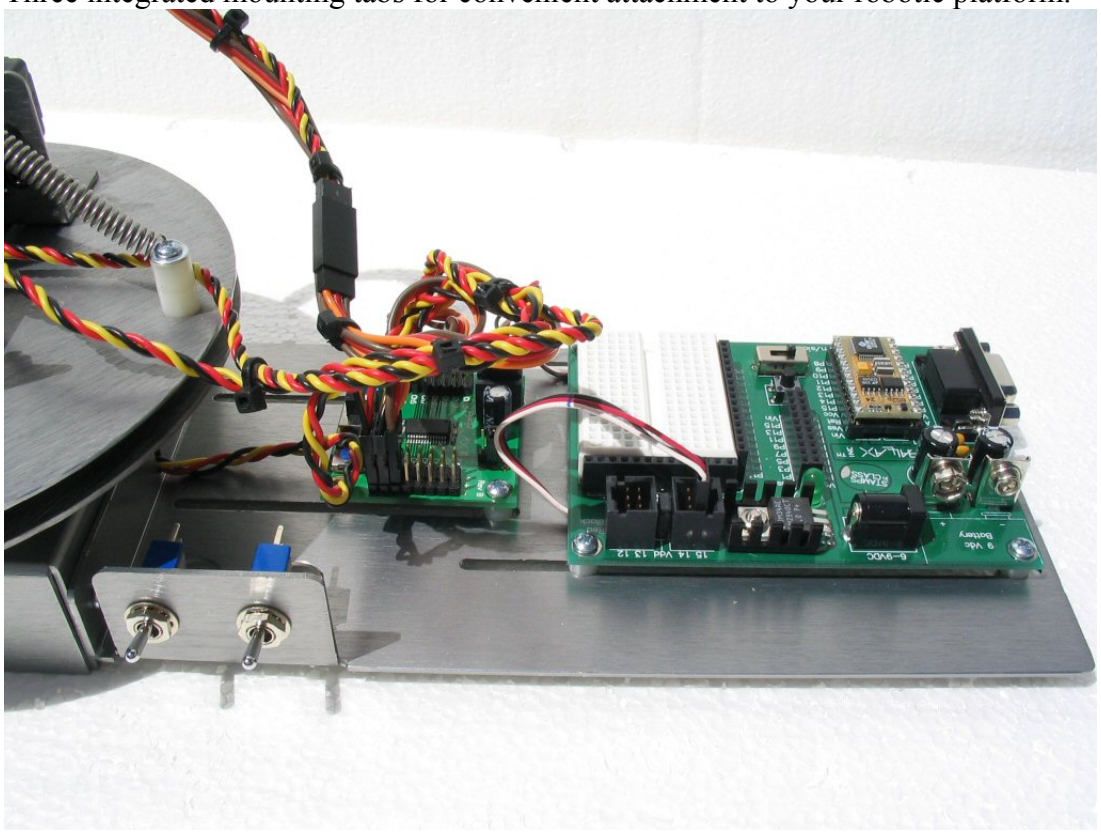


SG5-UT (Ultra Torque) Robotic Arm, load balance, robotic arm featuring all aluminum construction and the only fully expandable " smart grip " design components. Present the most powerful and sophisticated, all aluminum 5-axis robot arm available today.

KEY FEATURES :

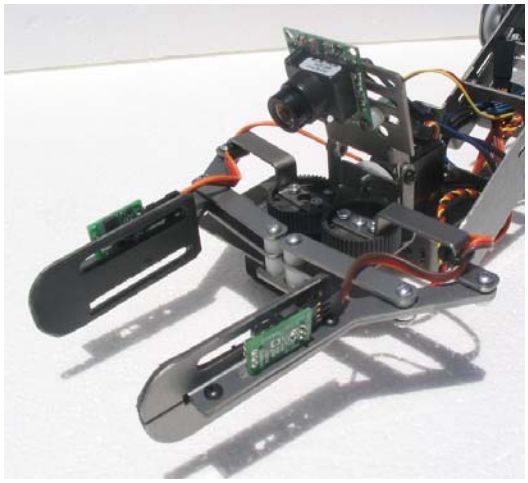
All parts are precision CNC machined from .63ga.5052 brushed, sheet aluminum.
The aluminum components are anodized to a smooth, scratch resistance, graphite finish using a type II anodizing process (the most impermeable finish next to military type III anodizing).
All servo pivot point used integrated pem stud pivot point. Pem studs are cylindrically shaped aluminum spacers that are pressed into the aluminum with over 300 pounds of pressure. Unlike other manufacturer we do not used tape or glue in these critical stress areas (if your not sure, simply read their construction manual).
Integrated pem nuts for areas construction. Pem nuts are nuts that are pressed into the aluminum with over 200 lbs of pressure. This makes construction much easier and faster.
Pass thru holes and slots strategically located throughout the arm assembly for convenient wire routing.
Two integrated SPST switches for convenient power routing to servos and supporting electronics.

Three integrated mounting tabs for convenient attachment to your robotic platform.



Accommodates all of the Parallax microcontroller board including the BOE, BS2P40, BS2P24 and other.

The arm incorporates a custom engineered, counterbalanced retract system that effectively ensures maximum lifting and efficient servo power used both during operation and at rest. A counterbalanced arm is critical to ensure long servo life and maximum lifting power.



SENSOR ENGINEERED GRIP DESIGN.

The most critical aspect of any robotic arm is in the design of the manipulator or gripper. A robotic arms usefulness and functionality is directly related to the arms ability to sense and successfully manipulate its immediate environment. We developed the gripper assembly to include the following critical design feature :

The Gripper assembly contain an integrated, adjustable electronics stand located above the gripper assembly to accommodate an array of CCD camera, infrared sensor and other sensing electronics.

The gripper contain (4) integrated slots to accommodate multiple sensing opto-electronic components.

The end of the gripper are rounded for an even gripping surface area regardless of the gripper angle relative to the object being grasped.
The gripper drive system consists of a high resolution, 60 tooth, heavy duty, resin gear train driven by a high torque HITEC HS475 servo or equivalent, all of these combined components are critical for firm, precise gripper manipulation object.
The rouded gripper end can conveniently accommodate the " Flexiforce" pressure sensor for precise gripper pressure measurement and control.
1/16" volara, cross-linked polyethylene foam is used to line the inside of the gripper surface for maximum grip adhesion.

For more information, please contact **ADVANCE MICROLINK SDN BHD** robotic support team for more information.
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