



Hardware Spec. - Controller

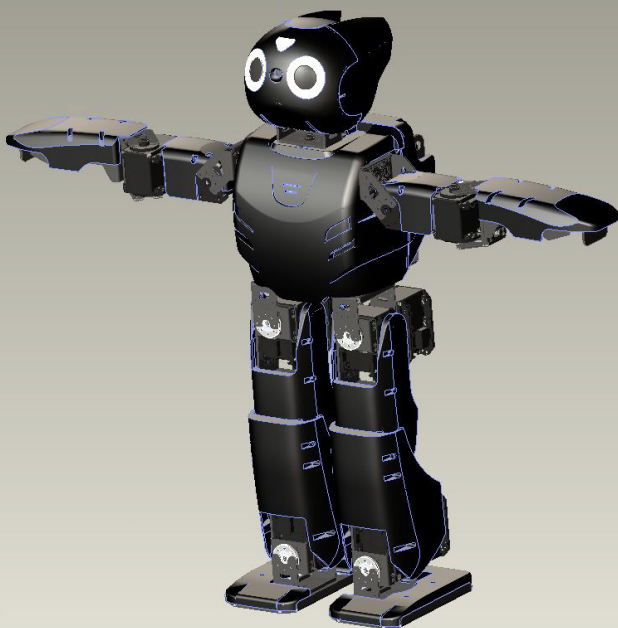
| | | |
|---|----------------------------|--|
| Main Controller SBC-fitPC2i  | CPU | Intel Atom Z530 CPU @1.6GHz |
| | Chipset | Intel US15W |
| | RAM | 1GB DDR2 |
| | Disk | 4GB Flash Disk |
| | External Video Port | HDMI |
| | Audio Port | HD Audio, line-out 2.0 / MIC in / Line in |
| | Ethernet Port | 1000 BaseT |
| | WiFi | 802.11b/g/n |
| | USB Port | 2 x USB2.0 |
| | External Storage | miniSD |
| | BIOS | Phoenix |
| | OS | Linux, Windows XP, Windows 7 |
| Sub Controller CM-730  | CPU | ARM 32-bit Cortex-M3 STM32F103RE |
| | Frequency | 72MHz |
| | Performance | 1.25 DMIPS/MHz (Dhrystone 2.1) |
| | Flash Memory | 512KB |
| | SRAM | 64KB |
| | Peripheral | 5 x USARTs 4 x 16-bit timers, 2 x basic timers 3 x SPIs, 2 x I2Ss, 2 x I2Cs USB, CAN, 2 x PWM timers 16 x 12-bit ADCs, 2 x 12-bit DACs 1 x SDIO |
| | Communication | TTL / RS-485 |

Hardware Spec. - Device

| | | |
|----------------------------|--------------------------|--|
| Actuator MX-28 | Holding Torque | 24kgf.cm @ 12V |
| | Speed | 54RPM @ No Load |
| | Motor | Maxon Coreless DC Motor |
| | Position Sensor | Absolute Encoder |
| | Gear Ratio | 1 : 193 |
| | Resolution | 0.088° |
| | Size | 35.5mm x 50.8mm x 41.8mm |
| | Weight | 72g |
| | Network Interface | TTL / Up To 3.0MBPS |
| | Feedback | Position / Speed / Temperature / Alarm |
| Sensor | Gyroscope | 3-Axis LYPR540AH |
| | Accelerometer | 3-Axis ADXL335 |
| | Pressuremeter | 2 x 4 FSR in Foot |
| | Camera | 2MP HD Logitech C905 Camera |
| Sound | Speaker | 8ohm 1W 1 x MIC in Body |
| | MIC | 2 x MIC in Ear / 1 x MIC in Head |
| Display | Head LED | 1 x RGB LED |
| | Eye LED | 1 x RGB LED |
| | Body LED | 6 x LED, 2 x RGB LED |
| Button & Switch | Body Button | 3 x Push Button |
| | Power Switch | 1 x Toggle Switch |
| Power | SMPS | in 100V-240V 50/60Hz / out 12V 5000mA |
| | Battery | Li-Po 3CELL 11.1V 1000mA |

Hardware Spec. - Mechanics

| | | |
|------------------|---------------|---------------------|
| Dimension | Height | 454mm |
| | Foot | 66mm x 104mm |
| | Leg | 250mm |
| | Arm | 214mm |
| | Weight | 2.90Kg |
| DOF | Head | 2 DOF |
| | Arm | 2 x 3 DOF |
| | Leg | 2 x 6 DOF |



Software Spec. – Overall

| | | |
|-----------------|--------------------------------|--|
| Software | O/S | Linux Ubuntu / Windows XP / Windowx 7 |
| | Framework | open-DARwIn SDK |
| | Programing Language | C / C++ / Java / Phython / Perl |
| | Compiler | gcc / MS Visual Studio |
| | Motion Editor | motion-DARwIn TCP/IP |
| | Development Environment | Eclipse / QEditor |
| | Code Management | Subversion |
| | Remote Management | SAMBA |

