



**Falconbots
Robot Specification
Humanoid Robot for Robocup 2011 Humanoid League**

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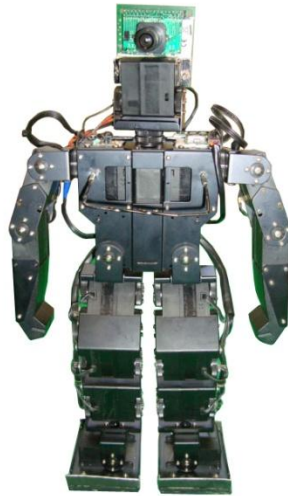
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Abstract: This document describe the specifications of Falconbots robots.

Robot Names:

Milyto
TEC-03



Specification:

Physical specs:	Height	38 cm
	Weight	1500g
	Walking speed	8cm/s

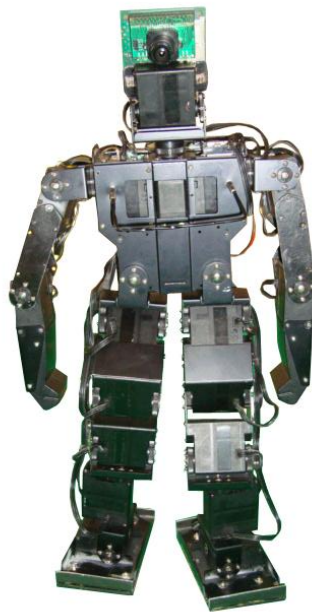
Degrees of freedom: 18 DOF	5 DOF on each leg
	3 DOF on each arm
	2 DOF on the head

Servo motors: 18 HSR-8498HB By HITEC
Dimensions: 40x20x47 mm
Max. Angle of rotation 180 Degrees
Weight: 55g, Voltage: 6-7.4V
Torque; 7.4kg*cm with 6V/9kg *cm with 7.4V
Speed: 60*o.2 Sec. with 6V/ 0.18 sec with 7.4V
HMI (HITEC Multi-protocol interface)

Sensors: 1 Camera: CMUCam3
1 CMPS03 by Devantech (I2C Interface)
0.1° resolution
1 Piezo Gyro PK3
1 SHARP miniature tilt sensor GP1S036HEZ

Processing unit: 1 MR C-3024 Atmel ATmega128
64k*8 EEPROM Memory

Robot Name:
Maxi



Specification:
Physical specs: Height 41 cm
Weight 1600g
Walking speed 10cm/s

Degrees of freedom: 20 DOF 6 DOF on each leg

3 DOF on each arm
2 DOF on the head

Servo motors: 20 HSR-8498HB By HITEC

Dimensions: 40x20x47 mm
Max. Angle of rotation 180 Degrees
Weight: 55g, Voltage: 6-7.4V
Torque; 7.4kg*cm with 6V/9kg *cm with 7.4V
Speed: 60*o.2 Sec. with 6V/ 0.18 sec with 7.4V
HMI (HITEC Multi-protocol interface)

Sensors:

1 Camera: CMUCam3
1 CMPS03 by Devantech (PC Interface)
0.1@ resolution

1 Piezo gyro pk3
1 SHARP miniature tilt sensor GP1S036HEZ

Processing unit: 1 MR C-3024

Atmel ATMega128
64k*8 EEPROM Memory

Robot Name:

TEC-04



Specification:

Physical specs:

Height	40 cm
Weight	1600g
Walking speed	13cm/s

Degrees of freedom:	20 DOF	6 DOF on each leg 3 DOF on each arm 2 DOF on the head
Servo Motors:	18 Dynamixel AX-12+	Dimensions: 40x34x47 mm Robot Exclusive Actuators using network method. Using Versatile Expansion Mechanism Torque: 14Kg.cm (at 11.1V) Movement Range: 360° Rotates 360° (works as wheels)
Sensors:	1 Camera:	UI-1226LE-C By IDS (WVGA: 752x480), 72° aperture angle 87 fps @ WVGA (max throughput) RGB, YUV, YCbCr (color spaces)
	1 IMU:	2 accelerometer axes (analog outputs) 2 gyroscope axes (analog outputs)
Processing unit:	Roboard RB-100	based on the 32-bit x86 Vortex86DX CPU 1 GHz, 256 MB DDR2 RAM RS-485, 32 PWM channels, 3 USB 2.0 ports, RS-232, SPI/I ² C bus, 8 10-bit ADC ports, Mini PCI socket, microSD slot 400 mA @ 5V (power consumption) 96mm x 56 mm, 40 g