

PINO ver.2 specification(without exterior)

ver.1

HARDWARE				
Body	Height	70[cm]		
	Weight	5.5[kg]		
	DOF	upper body	14DOF	
		leg part	12DOF	
	Actuator	DCmotor with planetary reduction device with potentiometer	Lmotor 13 pieces	stall torque : about 2.9[Nm] no load speed : about 37[rpm]
			Mmotor 13 pieces	stall torque : about 0.058 [Nm] no load speed : about 60[rpm]
		control algorism	Degital PID control with dead band control cycle : 1[msec]	
	Sensor	joint angle detection	potentiometer	26 axes
		angular speed detection	piezoelectric transducer gyro	2axes, 3axes(option)
		acceleration detection	2axes, 3axes(option)	
foot sensor detection		4 points on one-leg(option)		
Host PC operating system		WindowXP/2000		
Controller	Main CPU	SH 7055F 40Mhz(SH2E)		
	Sub CPU	HD64F2612 20MHz(H8S)		
	Motor Driver	control 3 DCmotor		
	Main-Sub CPU Interface	CAN bus		
	Main CPU-Host computer Interface	RS-232C		
Power resource	Input	AC 100~220[V]		
	Output	12[V] - 25[A]		
Hanging apparatus		Aluminum :1.5m for PINO walking		

SYSTEM	
System	<pre> graph LR PC[PC OS: Windows XP] <--> Data / RS232 PINO[PINO Body] PSU[Electric power source unit] -- Power --> PINO </pre>
Connection between robot and	Wired connections
Transmission method between	RS232 57.6kbps
Robot control	<p>Body control Distributed control (send & receive data from PC via Main CPU module to each Sub CPU)</p> <p>Joints control Proceeded by Sub CPU</p> <p>Sensor processing Proceeded by Sub CPU dispersed on the ground</p> <pre> graph TD Main[Main CPU Module SH2-E] --- LAN[LAN in body] LAN --- Sub1[Sub CPU H8S] LAN --- Sub2[Sub CPU H8S] Sub1 --- Act[Actuators (motors)] Sub2 --- Sen[Sensors] </pre>

*This contents might be changed without any notice.

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