Instructions for using the servo control board (all the information is on this)

Exclusive features:

1, using 32-bit high-speed CPU, processing speed, control more accurate, more stable operation.

2. You can't program, but as long as you use your mouse, your robot will still dance.

3, the perfect offline operation function, do not connect an external microcontroller, not to connect the PC, you can run thousands of action instructions.

4, automatically identify the baud rate (9600,19200,38400,57600,115200,128000 automatic identification).

5, the actual off-line operation (for example, send "#ENABLE#1G#3G#4#5G#6G#7GC100" with carriage return, servo controller automatically runs after the first 1,3,4,5,6, 7 action groups, executed 100 times in a loop, stable performance, and adding 500 action groups is no problem at all.

6. USB and TTL serial ports are handled separately with different IO ports, absolutely without any interference.

7. After the action group is executed, it will return an "AGFrn", so that everyone can detect whether the action group has been executed to execute other commands.


8. After a single command is executed, it will return a "#CCrn". For example, if you send "#2P1500#3P1500T1000rn", after the control board is executed, it will return "#CCrn" to indicate that the execution is completed.

Glossary: What is an action group

The action group of the servo control board was first developed independently by us. The function is to use the software on the PC side to pack a series of postures that have been adjusted into an action group, and then download it to the servo control board. After the download is successful, A number will be formed, for example number 1. If you want to execute this action group, just send #1GC1rn (C1 means loop 1).


Glossary: What is offline

Offline is from the computer, microcontroller, as long as a steering gear control board connected to the power can control 32 servos at the same time.


Glossary: How Offline Works

Offline operation must be set in advance. Open the PC software on the computer, select the action group to be executed offline, and then select the number of executions, then click "Enable", and finally the software will prompt that the setting is successful. At this time, you can reset the servo control panel (can be unplugged The power of the chip, then plug it back in again, the phenomenon is out!


Glossary: 32-bit CPU

Many traditional servo control boards use inexpensive 8-bit CPUs, such as AVR and 51 microcontrollers. The 8-bit CPU speed and performance lag far behind 32-bit CPUs.


This product is a set of the most cost-effective servo motor controller. Simultaneous control of up to 16 servo motor coordinated actions, with position control and speed control, can be controlled using

software on the PC or through UART communication in the MCU (51, AVR, ARM, FPGA, PIC, etc.) ( The TTL-level serial port) sends commands to control the servos, and the command codes generated by the software on the PC can also be downloaded to the servo motor controllers for off-line operation.

Through the PC operation of the host computer software to the controller to pass control command signals, you can achieve multiple servo motor control or simultaneous control. The microprocessor with serial port can also be used as a combination of the upper computer, the control instructions are simplified, the precision of the control angle is high, the baud rate can be changed in real time, the volume is small, and the weight is light. It can be used as a humanoid robot, a bionic robot, and multiple freedoms. Master robot controller.

The biggest advantages of this product are: independent research and development, can simultaneously control 16 servo motor, high precision (1us), can control the rotation speed of the servo motor has reached the multi-channel servo motor can operate synchronously, using the United States imported 32-bit CPU , Integrated USB communication interface, the use of the United States imported AT24C512 SOP8 as EEPROM (Flash) to maintain the action group data, high stability, 16-pin servo motor independent pin design (no crowding phenomenon). . .
Serial.begin(115200); // Set the baud rate to 115200
Serial.print("#1P800T1000rn"); // Servo No. S1 rotates to a position with a pulse width of 800, using time 1000ms
Delay(1000); // delay 1000ms, the servo just finished executing the previous command

PCB board process: Chemical Immersion Gold process SMT chip welding process safer and more stable
Product parameters: 1. Control chip power supply range: 6.5V ~ 12V or 4.5V ~ 5.5V. (Why there are two ranges? Because there are two inputs) (USB can power the chip of the servo control board, automatic selection, with USB reverse protection, can protect your computer from being burned out by reverse USB voltage)

2. Servo supply range: DC DC (voltage is related to servo parameters, generally 5V DC).

3. Control channel: Simultaneously control 16 channels. (Servo speed is precisely adjustable, the robot moves smoothly)

4. Communication input: USB or serial port (TTL, USART). (You can wirelessly control the servo controller using wireless Bluetooth module or other wireless module)

5. Signal output: PWM (precision 1us).

6. Servo motor drive resolution: 1us, 0.09 degrees.

7. The baud rate range: 9600 19200 38400 57600 115200 128000. (completely automatic identification, no need to set)

8. Supported Servomotors: Futaba or Hitec and domestic brands such as Fraser, etc., spike all servos that use PWM signal control.

9. PCB size: 51mm × 43.5mm × 1.6mm (mounting hole spacing: 42 * 35.5mm).

10. Control mode: USB and serial port (TTL) accept command mode. (Supply USB data cable and PC control software, software can be upgraded at any time)

11.flash: Onboard 512K ROM. (If each command is to control 32 servos at the same time, more than 500 instructions can be saved. If the command is short, saving thousands of them is not a problem.)

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