

# **USB Step Motor 8810-S**

## **Manual**



**Date : July , 2013**

**Version :1.0**

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# Introduction

No need any USB protocol knowledge to control Step Motor through PC easily .

If you want to use PC to control Step Motor , with the USB Step Motor 8810-S , you can do it simply plug and play. With no external case , just plug the USB port and use our software to control the motor direction and steps. There has time scheduler function , you can pre-set the time to auto control the motor .

Fit for Home / Office / Factory Automation application and school training purpose

## Features

- Control through USB by PC software
- No need extra power source , use USB as power source and communication .
- Control one 5V Step Motor – Direction , Steps . Speed
- Scheduler - Timer control
- SDK ( USB CDC mode ) provided – command under hyper terminal/ putty directly .  
as 2<sup>nd</sup> developing

**Note : This product supports both 5V /12V Step Motor and PWM DC Motor**  
**For DC Motor need to adjust 2 sets black jump**  
**Please contact your reseller to buy the DC motor if need .**  
**This board controls one kind of motor only at a time**

## Minimum System Inquire

- PC / Notebook with Windows OS like WIN 7 , VISTA or XP .
- USB 2.0 / 1.1.
- **Microsoft .NET Framework Version 3.5 or above**




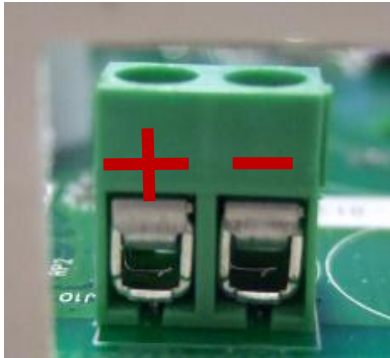
## SPEC.

ITEM	SPECIFICATION
Rated Voltage	DC 5V
Motor Rated Load	0.25A/Phase
No. of Phases	Four (4)
Step Angle	7.5°
Excitation Method	2-2 Unipolar
Insulation Classification	Class A
Operating Temperature	0~+50℃
Operating Humidity	5~90%RH
Storage Temperature	-20℃~+70℃
Storage Humidity	5~95%RH

## Package

8810-S x 1	
USB Cable ( Male –Male)	For connect with PC
CD	With Driver , Manual and Software

## Interface

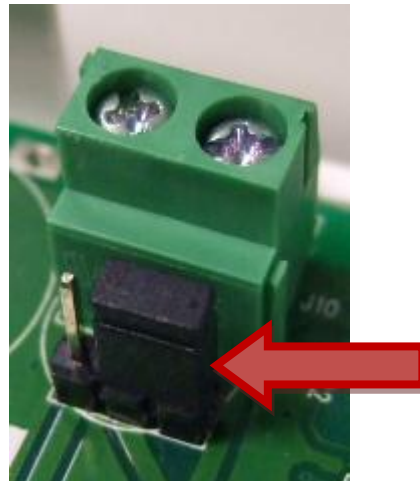
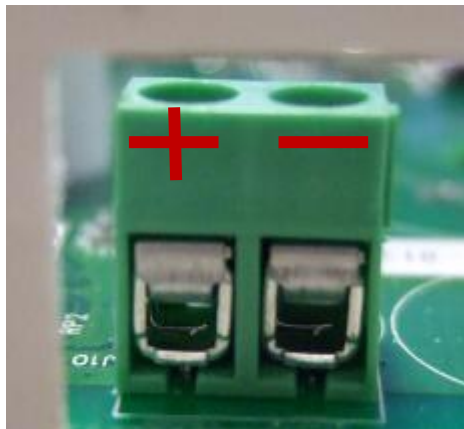
<b>USB port</b>	<p>Connect with PC .</p> 
<b>Motor Socket</b>	<p>Connect to Step Motor</p> 
<b>5V Step Motor</b>	<p>Connect to Motor socket</p> 
<b>Other Motor Application</b>	
<b>12V Power In ( Left+ / Right - )</b>	<p>For other 12V Step Motor . Need to adjust the JUMP position Please refer the Hardware Installation .</p> 

# Installation

## Hardware

Please plug the Step Motor in package on the Motor Socket ( White )  
Connect the 8810-S board to PC by USB cable. Windows will show that there is Un-know hardware detected . Then install the driver and software from CD.

Notice : If use the option 12V Step Motor, user need to have the 12V power source first . Please plug the power source to the green socket for 12V power in ( Left plus + & Right negative - ) , and plug the 12V step motor to white socket and adjust the jumper as following :



## Driver & Software

### Installation Procedure

1. Please make sure that your PC had install .NET . or go to the link below to download before install USB Step Motor 8810-S . :  
<http://www.microsoft.com/en-us/download/details.aspx?id=21>
2. After install .NET, please insert the CD in your CD ROM and it will execute

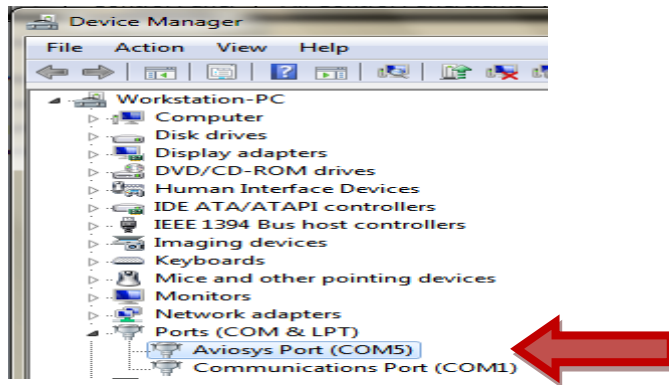
AUTORUN. file or you can open by Windows . Please use web browser “ IE  
“ to open the CD.

3. Then go to Manual → USB Series → USB Step Motor 8810-S to  
Download the driver “ USB Net Power Driver” and the software “USB Step  
Motor 8810-S.exe “ into your hard disk .

- Software : USB Step Motor 8810-S.exe
- 8810 Driver: USB Net Power Driver .

4. Connect the 8810 power and the USB port of 8810 power to PC . PC will  
pop up “ Detect New Hardware” , then select the 8810 driver and install .
5. After install the driver, you can get “Aviosys Port (COM X) in Ports (COM&  
LPT) device manager as following .

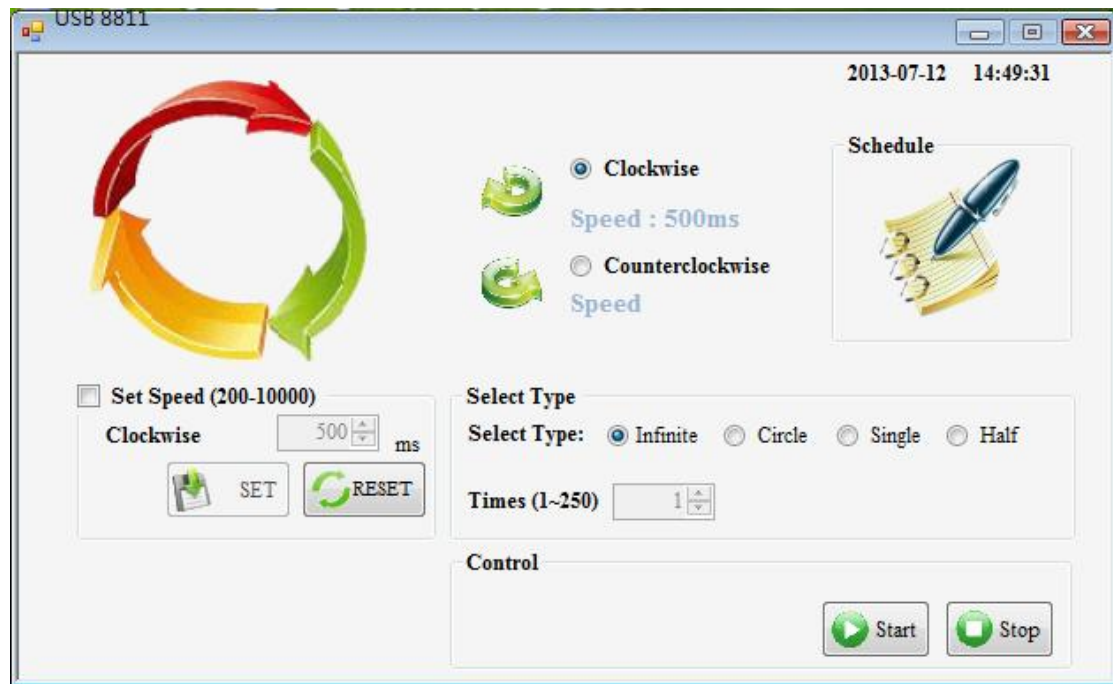
Control Panel → System → Device manager → Ports(COM& LPT) → Aviosys Port (COM X)



- 4.) After confirm the 8810-S shown in Device Manager , please execute the software  
“USB Step Motor 8810-S.exe “ and you will see as following :



## Software Interface



### **Clockwise**

### **Counter Clockwise**

### **Set Speed**

Here you can setup the Speedy , range as 200~ 10000, press SET button after confirm .

### **Select type**

Here you can setup the type and times :

- Infinite – keep turning
- Circle – turn one loop ( 360 degree = 48 steps )

- Single – move one step ( around 7.5 degree)
- Half - move half step

Times : Here user can setup the times range at 1 ~ 250.

Select “ Infinite ” then no need to setup the times .

Select “ Circle” + Times as “ 3 ” then the motor turn 3 loop

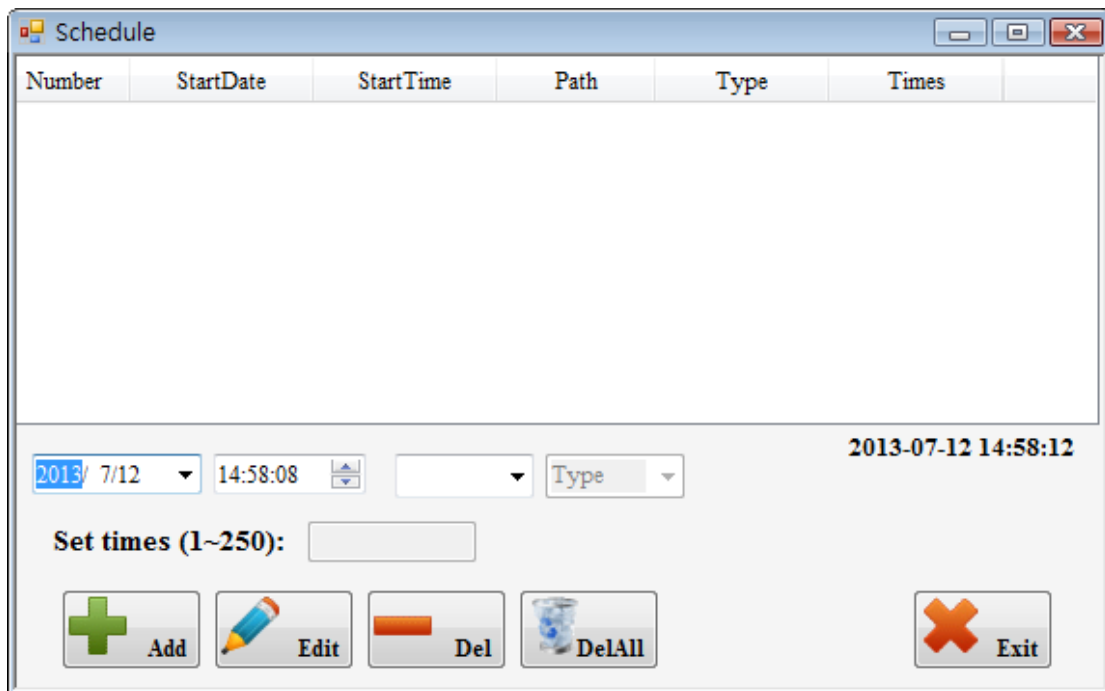
Select “ Single” + Times as” 6 “ then the motor turn 6 steps

Select “ Half ” + Times as “ 2 “ , then the motor turn 1 step.

## Control

- Start
- Stop


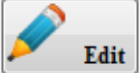



## Schedule



Number	StartDate	StartTime	Path	Type	Times
--------	-----------	-----------	------	------	-------

2013/ 7/12 14:58:08 Type 2013-07-12 14:58:12

Set times (1~250):

Set up the schedule to control motor. It is a helpful tool for auto control

**Notice : Please turn off the Sleep function of PC and the 8810-S software need to be keep executing as use scheduler function.**

Here user can select date , time , direction and type :

The screenshot shows a software interface for scheduling. At the top right, it displays the current date and time: 2013-07-12 15:00:24. Below this, there are four input fields: a date picker showing '2013/ 7/12', a time picker showing '14:58:08', a direction dropdown menu currently set to 'Left', and a type dropdown menu currently set to 'Infinite'. The type dropdown is open, showing options: 'Infinite', 'Circle', 'Single', and 'Half'. Below these fields is a text input labeled 'Set times (1~250):'. At the bottom, there are five buttons: 'Add' with a green plus icon, 'Edit' with a pencil icon, 'Del' with an orange minus icon, 'DelAll' with a trash can icon, and 'Exit' with a red X icon.

- Date : Select the date in calendar .
- Time : Select the time .
- Direction : Left( Counter clockwise ) , Right ( Clockwise ) , Stop .
- Type :  
There are 4 types : Infinite – Keep turning . Circle – Loop , Single step , Half step
- Set times : Range as 1~250

**For example : Select “ Left” + ” Single “ + “ 250” means  
Turn Counter clockwise at 250 steps**

#### **Add – add new time schedule**

#### **Edit – edit time scheduler**

- 1.) Press the item want to revise .
- 2.) Revised the date , time , direction , type and times.
- 3.) Please EDIT button' s confirm .

#### **Del – delete item**

- 1.) Select the item want to delete
- 2.) Press DEL button .

#### **Del All - delete all item in list**

- 1.) Delete “ Del All” button to clear all list
- 2.) There is 2<sup>nd</sup> confirmation before delete all action

## SDK - USB CDC emulation mode

For user to arrange its own development :

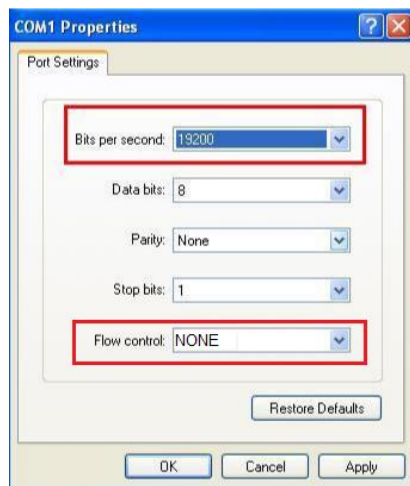
- Developing environment: :
  - VB.NET 2008
  - Microsoft NET. Framework Version 3.5
  - Microsoft office access 2007

### USB CDC emulation mode .

Please refer the setting as following :

1. First , make sure that the 8810-S is connect with your PC. Please go to  
Control Panel → System → Device manager → Ports(COM& LPT) → Aviosys Port (COM X)
  2. Then open Hyper terminal to connect with 8810-S.  
Start → All programs→ Accessories → Communication → Hyper terminal
- \* There is no Hyper terminal program in WIN 7. Please use other serial software like Putty .  
Select the COM port 8810-S use .

3. Setup “ Bits per second” as 19200 and “ Flow control” as NONE. Then press **OK** to log in .



After go into the command windows, please press “ enter “ key to get all the command .



## [Command ]

### 1. Step Motor

- ri --> keep turning clockwise
- rl --> keep turning counter clockwise
- rs --> turn clockwise one step
- ls --> turn counter clockwise one step
- rhs --> turn clockwise one step
- lhs --> turn counter clockwise half step

### 2.stop --> stop turning

### 3.? Or key "Enter" --> show command list

### 4 . Fast command —

~ - show 8811( step motor ) °

- |                              |   |
|------------------------------|---|
| ! turn clockwise one step    | @ turn counter clockwise one step       |
| #,+ turn clockwise half step | \$\$,- turn counter clockwise half step |
| % clockwise one turn         | ^ turn counter clockwise one turn       |
| & keep turning clockwise     | * keep turning counter clockwise        |
| ( stop turning               |   |

**Note :** This product support both 5V /12V Step Motor and PWM DC Motor .  
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Thank you for supporting our USB Motor 8810-S.  
 If any question , please e-mail to the distributor.