RS
RS03/06-P Quick Setup Guide

Requirements

To begin, make sure you have the following equipment:

- A 24-70VDC power supply
- A compatible step-servo motor
- A small flat blade screwdriver for tightening the connectors (included)
- A RS-232 communication cable (included)
- A PC running Microsoft Windows XP / Vista / Windows 7/ Windows 8 (32-bit or 64-bit) operation system
- **Step-Servo Quick Tuner** software (available from MOONS' website)
- For more detailed information, please refer to the RS03/06-P drive’s hardware manual

Step 1

a) Download and install **Step-Servo Quick Tuner** software  
b) Launch the software by clicking Start / Programs / MOONS’ / Step-Servo Quick Tuner  
c) Connect the drive to your PC using the RS-232 communication cable. If your PC doesn’t have RS-232 port. Please use a USB to RS-232 converter

<table>
<thead>
<tr>
<th>Driver</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>GND</td>
<td>Connects to host GND</td>
</tr>
<tr>
<td>TX</td>
<td>Connects to host RX</td>
</tr>
<tr>
<td>+5V</td>
<td>Connects to host +5V</td>
</tr>
<tr>
<td>RX</td>
<td>Connects to host TX</td>
</tr>
</tbody>
</table>

View from the driver side

Step 2

a) Connects the driver to DC power supply  
   (NOTE: DO NOT apply power until all connections to the drive have been made)  
   RS03/06-P accepts DC voltage range from 24 – 70VDC  

b) Ensure a proper earth ground connection by using the screw on the bottom left side of the chassis.
Step 3

Connecting to the motor. RS step-servo motor has two cables. One is motor cable, another is encoder cables. Please connects the motor cable to the motor connector on the driver, and connects the encoder cable to the encoder connector on the driver. If the cable length is not long enough, please use extension cables for motor and encoder.

![Motor and Encoder Connectors](image)

Step 4

Connecting to the digital inputs & outputs (I/O)

![Digital Inputs & Outputs](image)
Four digital inputs:
X1/STEP, X2/DIR: optically isolated, differential, 5-24VDC, minimum pulse width 250ns, maximum pulse frequency 2MHz
X3, X4: optically isolated, single-ended, sinking or sourcing, 5-24VDC, minimum pulse width 50 μs, maximum pulse frequency 10KHz
Connecting to a switch or relay:

5 - 24V Power Supply

Switch or Relay
(Closed: logic low)

XCOM

X3/X4

Connecting a NPN type Proximity Sensor to an Input
(when proximity sensor activates, output goes low)

5 - 24V Power Supply

NPN Proximity Sensor
(output)

XCOM

X3/X4

Connecting a PNP type Proximity Sensor to an Input
(when proximity sensor activates, output goes high)

5 - 24V Power Supply

PNP Proximity Sensor
(output)

XCOM

X3/X4

Three digital outputs:

Y1, Y2, Y3: optically isolated, single-ended, sinking or sourcing, max. 30VDC/100mA

Connecting a Sinking Output

5 - 24V Power Supply

Load

Y1/Y2/Y3+

Y1/Y2/Y3−

RS-P

Connecting a Sourcing Output

PLC

COM

IN

Y1/Y2/Y3+

Y1/Y2/Y3−

RS-P

Driving a Relay

5 - 24V Power Supply

5n4935 Suppression Diode

Y1/Y2/Y3+

Y1/Y2/Y3−

RS-P

Encoder Outputs:

RS03/06-P has differential encoder outputs (AOUT ± / BOUT ± / ZOUT ± ), with 26C31 line driver, 20 mA sink or source current in max. These signals can be connected to the motion controller to be a feedback of the motor position.
Step 5

a) Apply power to the driver

b) The software will recognize and display driver's model number & firmware version automatically

c) Use **Step-Servo Quick Tuner** software to configure drive and motor parameters, set control mode and I/O function etc. Motion simulation and status monitor are also included.

d) Use **Step-Servo Quick Tuner** software for velocity loop, position loop parameters tuning
e) Use **Step-Servo Quick Tuner** software to perform motion simulation.