TSM

TSM11 Quick Setup Guide

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Requirements

You will need these items to set-up the TSM11:

- A 15 - 30 volt DC (24VDC nominal) power supply
- Download **Step-Servo Quick Tuner** software from MOONS' website
- A PC running Windows XP, Vista, Windows 7 or Windows 8 (32-bit or 64-bit)
- A mating cable(for power, I/O and communication connection, included in package)
- A RS-485 converter

Safety Instructions

- Only qualified personnel should assemble, install, operate, or maintain this equipment.
- Read all available documentation before assembly and operation.
- It is vital to ensure that all system components are connected to earth ground.
- This product contains electrostatically sensitive components that can be damaged by incorrect handling.
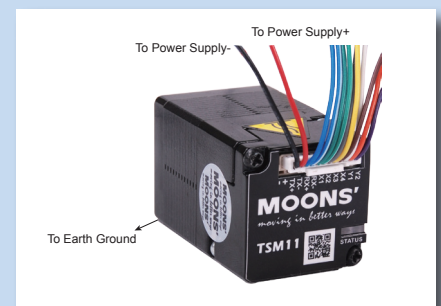
Step 1

Install the Software

Before utilizing the TSM11 Integrated Motor and **Step-Servo Quick Tuner** Software in an application, the following steps are necessary:

a) Install the **Step-Servo Quick Tuner**

b) Launch the software by clicking Start **Step-Servo Quick Tuner** software...Programs...MOONS'.

c) Connect the drive to the PC using RS-422/485, it is recommended to set up in a 4-Wire configuration (see "communication" below.)

Step 2

Connect the Power Supply

a) Connect the power supply "+" terminal to the drive "+" terminal & the power supply "-" terminal to the drive "-" terminal using AWG26 wire.

b) Be careful not to reverse the wires. Reversing the connection may open the internal fuse and void the warranty.

c) If a regulated power supply is being used, there may be a problem with regeneration that can be solved with the use of a MOONS' RC880 Regeneration Clamp. Please see the MOONS' website or the TSM11 User Manual for more information.

d) Apply power to the drive.

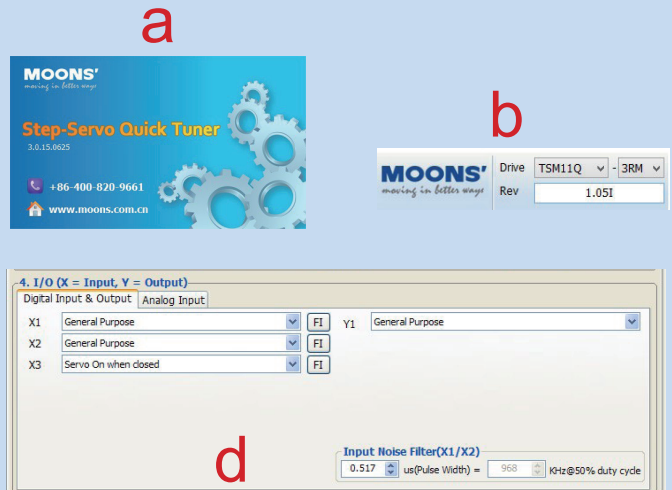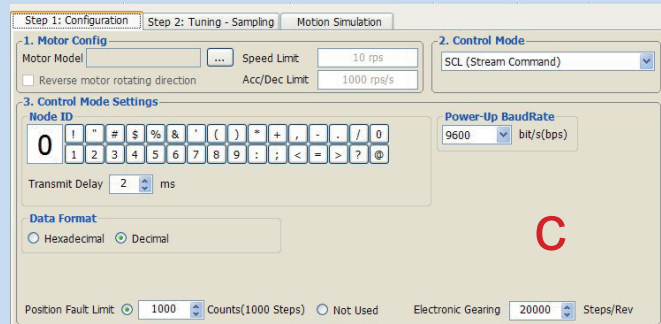e) The software will recognize the drive and display the model and firmware version.

Note: As with any integrated motor, the TSM11 must be mounted so as to provide maximum heat sinking and airflow. Keep enough space around the Integrated Motor to allow for airflow.

To Power Supply+
To Power Supply-
To Earth Ground

Step3

Configure the Drive

a) Apply power to the drive
b) The software will recognize the drive & display the model & firmware version
c) Setup drive control mode, and control mode settings
d) Setup I/O settings

a

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Step-Servo Quick Tuner
3.0.15.0625

📞 +86-400-820-9661
🏠 www.moons.com.cn

b

MOONS' *moving in better ways*   Drive [TSM11Q ▾] - [3RM ▾]
Rev [1.05I]

c

| Step 1: Configuration | Step 2: Tuning - Sampling | Motion Simulation |

1. Motor Config
Motor Model [   ] [...]   Speed Limit [10 rps]
☐ Reverse motor rotating direction   Acc/Dec Limit [1000 rps/s]

3. Control Mode Settings
Node ID

| 0 | ! | " | # | $ | % | & | ' | (|) | * | + | , | - | . | / | 0 |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | : | ; | < | = | > | ? | @ |

Transmit Delay [2 ⬍] ms

Data Format
○ Hexadecimal   ◉ Decimal

Position Fault Limit ◉ [1000 ⬍] Counts(1000 Steps) ○ Not Used   Electronic Gearing [20000 ⬍] Steps/Rev

2. Control Mode
[SCL (Stream Command) ▾]

Power-Up BaudRate
[9600 ▾] bit/s(bps)

d

4. I/O (X = Input, Y = Output)
| Digital Input & Output | Analog Input |

X1 [General Purpose ▾] [FI]   Y1 [General Purpose ▾]
X2 [General Purpose ▾] [FI]
X3 [Servo On when closed ▾] [FI]

Input Noise Filter(X1/X2)
[0.517 ⬍] us(Pulse Width) = [968] KHz@50% duty cycle

Communications

Four-Wire Configuration

RS-232 to RS-422/485 4-wire Converter

- **UT-202** is a recommended 'RS-232 to RS-422' converter from UTEK TECHNOLOGY (SHENZHEN) CO, LTD.

  It only supports to establish the full-duplex (4-wire) RS-422 network.

  The connection is as follows：

DB9 Male (PIN)	Converter Output	Drive
1	T/R+	RX+
2	T/R-	RX-
3	RX+	TX+
4	RX-	TX-
5	GND	GND

USB to RS-422/485 4-wire Converter

- **UT-890** is a recommended 'USB to RS-422/485' converter from UTEK TECHNOLOGY (SHENZHEN) CO, LTD.

  It supports to establish either the half-duplex (2-wire) RS-485 network or the full-duplex (4-wire) RS-422 network.

  The connection is as follows：

DB9 Male (PIN)	Converter Output	Drive
1	T/R+	RX+
2	T/R-	RX-
3	RX+	TX+
4	RX-	TX-
5	GND	GND

(http://www.szutek.cn)

Two-Wire Configuration

RS-232 to RS-422/485 2-wire Converter

- **UT-201** is a recommended 'RS-232 to RS-485' converter from UTEK TECHNOLOGY (SHENZHEN) CO, LTD.

  It only supports to establish the half-duplex (2-wire) RS-485 network.

  The connection is as follows：

DB9 Male (PIN)	Converter Output	Drive
1	T/R+	RX+
2	T/R-	RX-
3	T/R+	TX+
4	T/R-	TX-
5	GND	GND

USB to RS-422/485 2-wire Converters

- **UT-890** is a recommended 'USB to RS-422/485' converter from UTEK TECHNOLOGY (SHENZHEN) CO, LTD.

  It supports to establish either the half-duplex (2-wire) RS-485 network or the full-duplex (4-wire) RS-422 network.

  The connection is as follows：

DB9 Male (PIN)	Converter Output	Drive
1	T/R+	RX+
2	T/R-	RX-
3	T/R+	TX+
4	T/R-	TX-
5	GND	GND

If you have any questions or comments, please call MOONS' Customer Support: +86-4008209661, or visit us online at www.moonsindustries.com.