Automation Direct's QuickStart Guide for EM-S Series ProTuner Software

Almost all EM542S and EM556S stepper drive applications can be configured with the onboard DIP switches. See the AutomationDirect Leadshine Stepper Drives QuickStart Guide and the Leadshine EM542S/EM556S User Manuals to get your drive up and running quickly. If your application needs different settings than the DIP switches offer (different PPR, other current settings for your motor, special tuning, etc.) you may need to use the ProTuner for EM-S Series software.

To use the software, download and install ProTuner for EM-S Series from AutomationDirect.Com. The software can be found on the Support page on our website or linked from the EM542S or EM556S Item Pages. The software does not have an installation package. Simply copy the folder to your hard drive and run the file EM-S Series ProTuner.exe. The ProTuner software from Leadshine is applicable to many different drives offered by the manufacturer.

The only drives sold by AutomationDirect that are applicable to this software are the EM542S and EM556S stepper drives. The software features below are the only functions that AutomationDirect recommends using with our stepper drives.

CONNECT TO THE DRIVE

The following sequence is required to properly connect to the drive. If your PC does not successfully connect to the drive, repeat this sequence in the correct order.

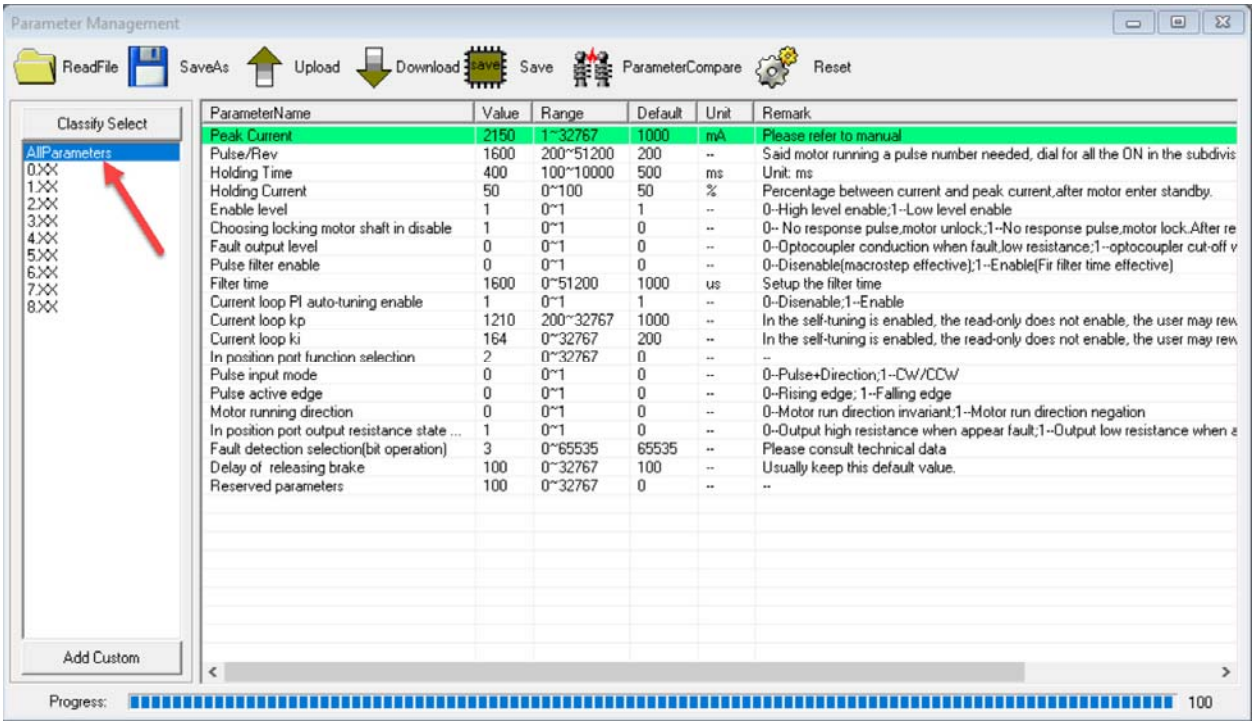
1) Ensure power to the stepper drive is OFF.
2) Ensure that ProTuner for EM-S Series is NOT running.
3) Install a USB to RS232 comm adapter on your PC (USB-RS232 from AutomationDirect works well). You can skip this step if your PC has a built-in RS-232 port.
4) Open Device Manager and make sure the USB adapter has no errors/warnings. Verify which COM port the adapter is assigned to (needed in step 8).
5) Connect cable 1.4.4-0409505-B3 to the USB adapter and to the DM-805-AI drive.
   Do not connect/disconnect the serial cable with power connected to the drive.
6) Power up the stepper drive. Ensure the green LED is ON (no drive faults).
7) Start the ProTuner for EM-S Series software.
8) Choose the correct COM Port from step 4. The baud rate is fixed at 38400. The Drive address should always be 1. Click Connect to establish connection to the drive.

Once connected to the drive, several icons appear. They are also available in the pull-down menu. The only option that AutomationDirect recommends using is the Parameter Management screen.

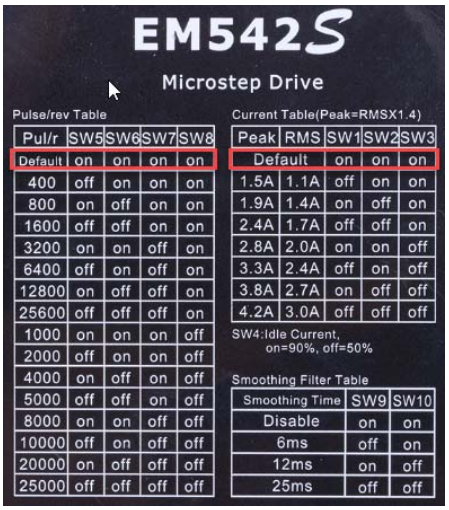
Parameter Management Screen

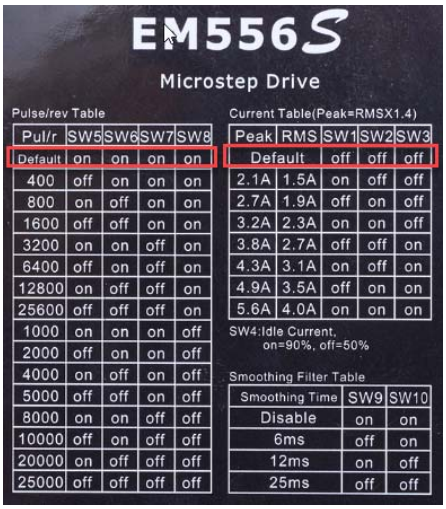
The Parameter screen allows the user to upload and download entire configurations to/from the drive. Save to disk, Read from disk, and Compare (online values to saved values) are also available.

For the EM542S and EM556S drives, all parameters that can be read or adjusted with Pro Tuner can be seen in the "All Parameters" group.

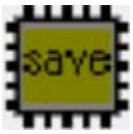


To write to a parameter: click on the parameter's row, then single click the highlighted row. The "Value" range will turn to an entry field. Type in the new value and press Enter. The new value will be sent to the drive. Pulse/Rev (pulses per revolution) and Peak Current (motor phase current) must have their hardware DIP switches set to "Default" for the software to be able to modify the settings. Note that the "Default" current settings for the EM542S (SW1, SW2, SW3 = ON) are slightly different than the "Default" current setting for EM556S (SW1, SW2, SW3 = OFF).





NOTE: For any parameter to be saved to the non-volitile memory of the drive the "Save" button must be pressed.



Parameter summary

Read/Write parameters:

- **Peak Current**
- **Pulse/Rev**
- **Holding Time**
- **Holding Current**
- **Enable level**
- **Motor running direction**
- **Dela of releasing brake**

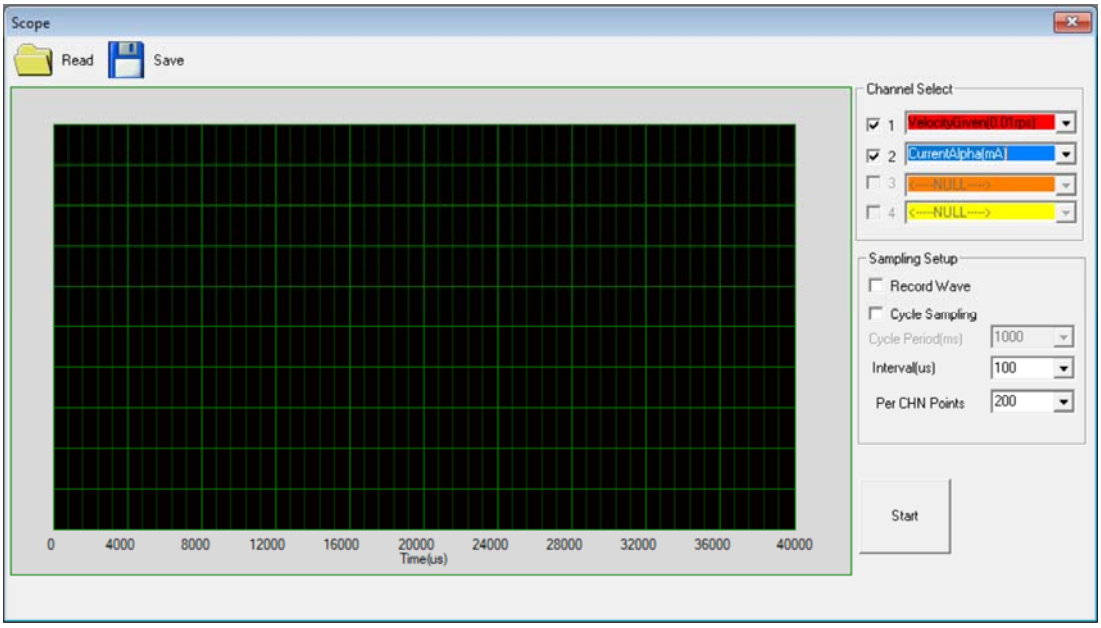
Read only:

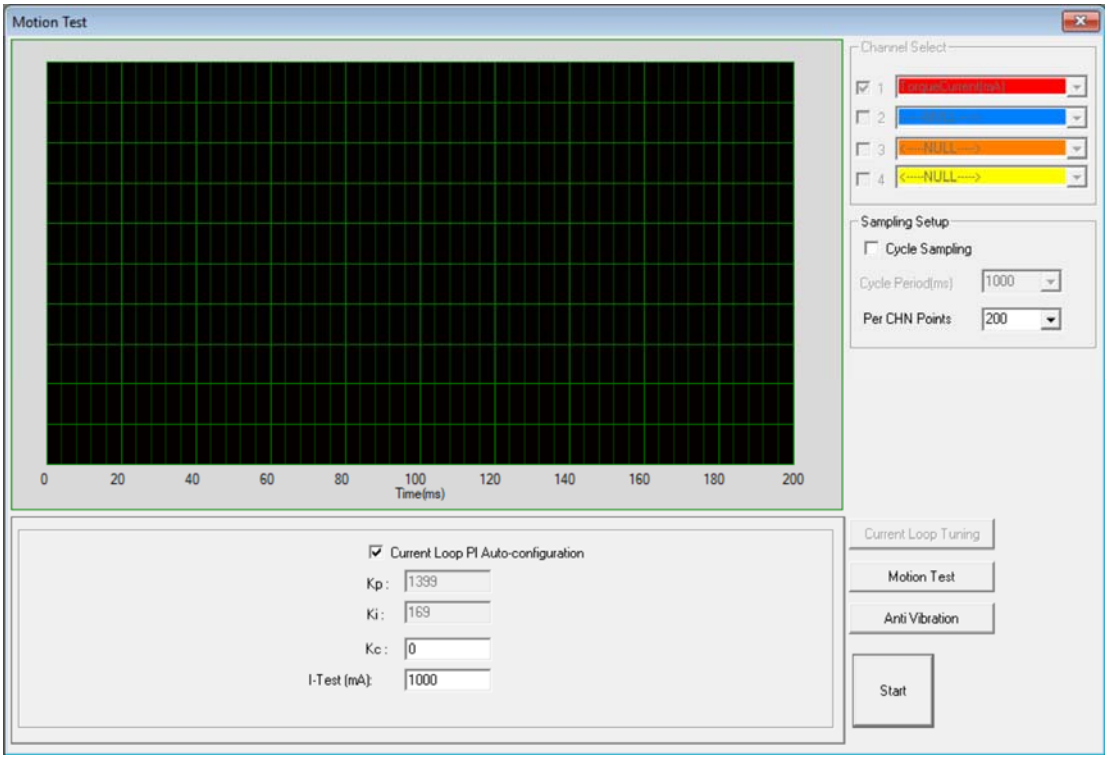
- **Choosing locking motor shaft in disable** reads DIP SW15 and is a read only parameter
- **Fault output level** reads the status of DIP SW12.
- **Filter time** and **Pulse Filter Enable** reads the status of DIP SW9 and SW10.
- **Current Loop PI auto-tuning enable** reads the status of DIP SW11.
- **Current loop kp,** and **Current loop ki.**
- **Pulse input mode** reads the status of DIP SW14.
- **Pulse Active edge** reads the status of DIP SW13.

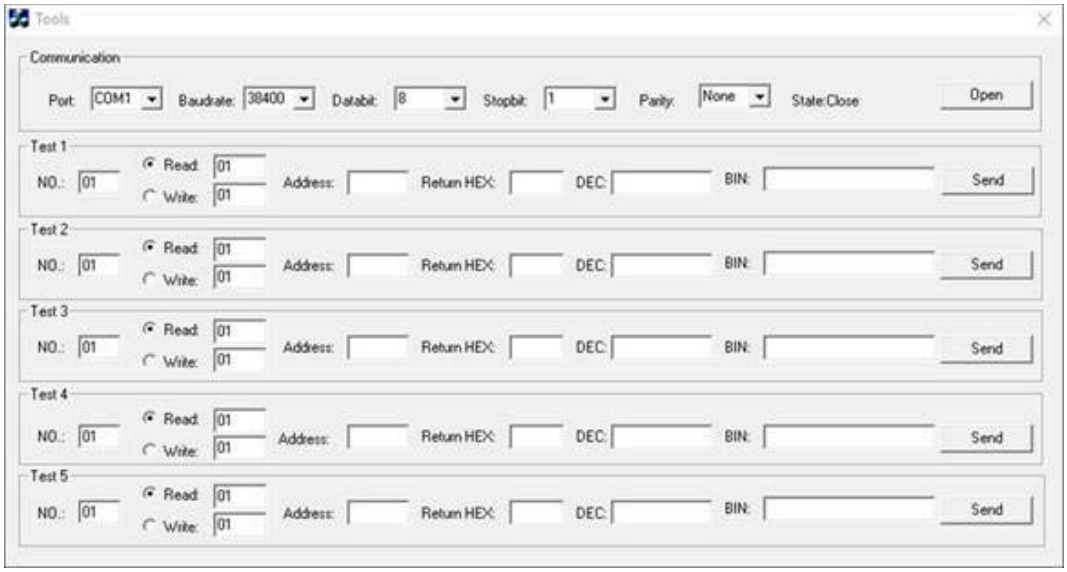
The following parameters are not applicable to drives that Automation Direct sells:

In position port function selection
In position port output resistance state
Fault detection selection
Reserved parameters

The **Scope**, **Motion Test**, and **Debug** widows are not applicable to the drives Automation Direct sells.







The below window is for the PC to the drive communication timeout.