

STM23R

Integrated Motor

Quick Set-Up Guide

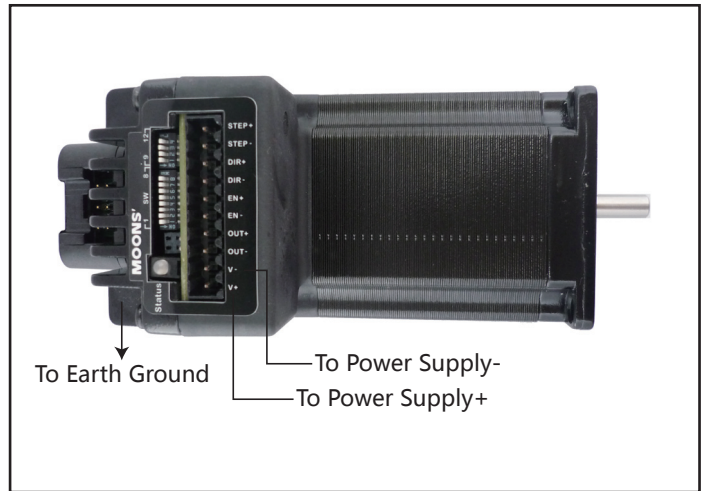
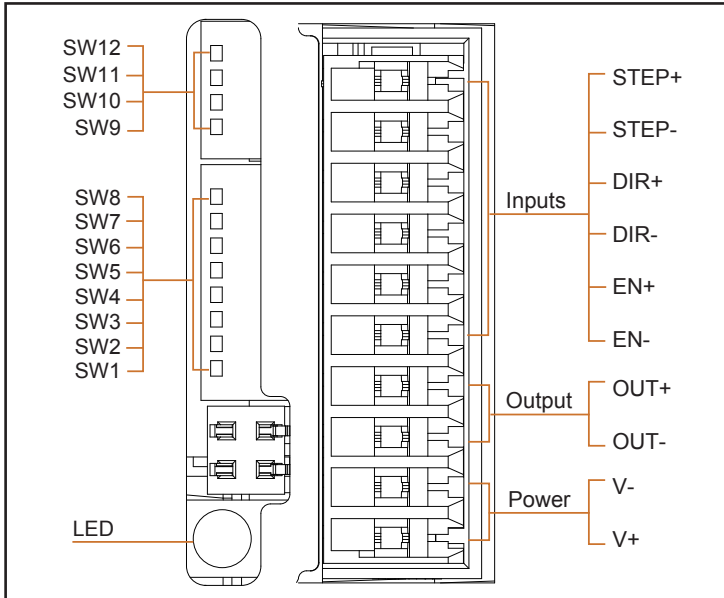
Requirements

You will need these items to set up the STM23R:

- a 12 - 70 volt DC power supply
- Step & Direction signals
- a small flat blade screwdriver for tightening the connectors (included)

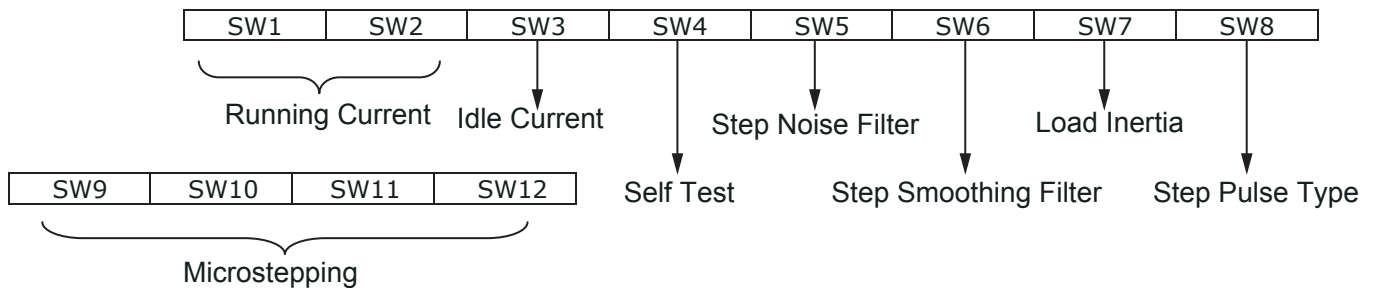
Connect the Power Supply

- Connect the power supply “+” terminal to the drive “+” terminal & the power supply “-” terminal to the drive “-” terminal using 16 to 20-gauge wire.
- If a regulated power supply is being used regeneration may require the use of a MOONS’ RC050 Regeneration Clamp. Please see our website or the User Manual for more information.



Selection Switches

Motor parameters are set through the use of the Selection Switches.



Running Current

The output current of the STM23R is set by the **SW1** and **SW2** switches as a percentage of the running current and can be changed as necessary. There are 4 settings available according to the ON/OFF combination of the switches.

Peak	SW1	SW2
50%	ON	ON
70%	OFF	ON
90%	ON	OFF
100%	OFF	OFF

Idle Current

The running current of the STM23R is automatically reduced whenever the motor isn't moving. Setting the **SW3** switch to ON reduces the current to 50% of its running value. Setting this switch to OFF maintains 90% of the running current. This 90% setting is useful when a high holding torque is required. To minimize motor and drive heating it is highly recommended that the idle current reduction feature be set to 50% unless the application requires the higher setting.

Self Test

Setting switch **SW4** to ON after the drive is powered up will cause the drive to perform a self test move of 2 revolutions both CW and CCW at 1rps. Setting switch **SW4** to OFF disables this feature.

Input Noise Filter

The digital inputs for STEP & DIR signals are sensitive to external noise. The Input Noise Filter sets a hardware circuit to filter out any unwanted noise. Setting switch **SW5** to ON will set the filter frequency at 150 KHz. For higher motor speeds the filter can be set to OFF for a filter frequency of 2 MHz.

Step Smoothing Filter

Setting switch **SW6** to ON enables the step smoothing feature (also called microstep emulation) to provide smooth motion from coarse command signals. This may cause a slight delay in motion. If this is undesirable, set the switch to OFF.

Anti-Resonance Inertia

For optimum performance, the drive must understand the electromechanical characteristics of the motor and load. The motor table below lists the rotor inertia of each motor. Divide the load inertia by the rotor inertia to determine the inertia ratio of the load and motor. Switch **SW7** should be set to OFF for a low load inertia (0x to 4x) and to ON for a high load inertia (5x to 10x).

Integrated Motor	Rotor Inertia (g-cm ²)
STM23R-2	260
STM23R-3	460

Step Pulse Type

Setting **SW8** to OFF enables step and direction control mode (Step signal pulses once for each motor step, Direction signal commands direction.) Setting **SW8** to ON enables CW/CCW control mode. In CW/CCW control mode, the CW signal should be connected to the STEP input and the CCW signal to the DIR input. **The power must be cycled if this setting is changed.**

Microstepping

The microstep resolution is set by **SW9**, **SW10**, **SW11**, and **SW12**. There are 16 settings available.

Steps/Rev	SW9	SW10	SW11	SW12
200	ON	ON	ON	ON
400	OFF	ON	ON	ON
800	ON	OFF	ON	ON
1600	OFF	OFF	ON	ON
3200	ON	ON	OFF	ON
6400	OFF	ON	OFF	ON
12800	ON	OFF	OFF	ON
25600	OFF	OFF	OFF	ON
1000	ON	ON	ON	OFF
2000	OFF	ON	ON	OFF
4000	ON	OFF	ON	OFF
5000	OFF	OFF	ON	OFF
8000	ON	ON	OFF	OFF
10000	OFF	ON	OFF	OFF
20000	ON	OFF	OFF	OFF
25000	OFF	OFF	OFF	OFF

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.