

Stand-Alone 4-Axis Motion Controller

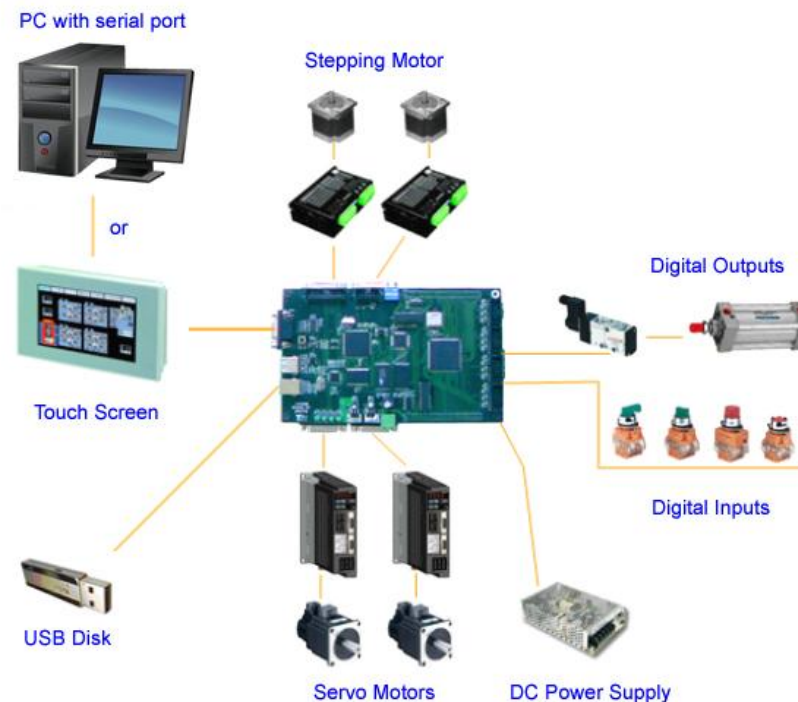
Introduction

The SMC6400B motion controller is Leadshine’s high performance, stand-alone motion controller, which based on a 32-bit RISC CPU. It offers 1 to 4 axes motion control for stepping motors or servo motors to accomplish various operations. The SMC6400B supports standard ISO G code programming. The user can edit G code program with touch screen or in a PC before download the program to the controller through RS232 serial port or USB disk.



The SMC6400B can generate pulse control signal to control servo or stepping system. The pulse output type can either be PUR/DIR or CW/CCW. 28 general purpose digital inputs and 28 general purpose digital outputs are built inside the SMC6400B. In multi-axis operation, the SMC6400 provides linear interpolation by any 2, any 3, or even all-4 axes. And any 2 axes can perform circular interpolation. It also supports trapezoidal/s-curve velocity profile and the continuous interpolation function.

There are totally 41 instructions (14 G-codes and 17 M-codes) has been carefully designed for user programming, offering motion control and program flow control including jumping, looping and subprogram calls, with or without condition. Multi-task and variable are also supported. All instructions are coincident with standard G-codes and easily understanding.



SMC6400B Control System

Features

- U Stand-alone Operation
- U Supports G code programming
- U 6 pulse/dir output modes: Pulse /DIR, CW/CCW etc.
- U 2~4 axes linear interpolation
- U 2 axes circular interpolation
- U Multi-axis continuous interpolation
- U 2 home return modes
- U Trapezoidal and S-curve velocity profiles programmable
- U Position limit and return home signals for each axis
- U Standard servo motor control signal for each axis

- U 28 general digital inputs with Opto-isolated
- U 28 general digital outputs with Opto-isolated
- U Touch screen optional

Specification

Performance

- U Number of controllable axes: 4 axes.
- U Internal reference clock: 60 MHz
- U Linear and circular interpolation accuracies: ± 0.5 LSB
- U Maximum manual pulser input frequency: 100KHz

I/O signals

- U Number of general purpose digital input: 28 (Isolated)
- U Number of general purpose digital output: 28 (Isolated)
- U Command signals: PUL and DIR (Non-isolated)
- U Mechanical limit/switch signal input pins: $\pm EL$, SD and ORG (Isolated)
- U Servo motor interface I/O pins: INP, ALM and ERC (Isolated)
- U Pulser signal input pin: PA and PB (Non-isolated)

User program memory

- U User program: 9999 rows G code

Power Supply

- U 24VDC $\pm 5\%$

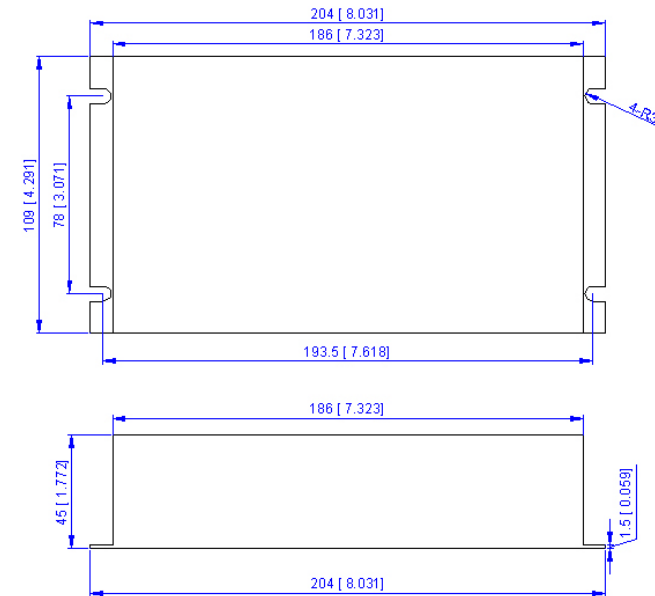
Communication Interface

- U USB disk interface: USB1.1
- U Serial interface: RS-232

Environment

- U Operating temperature: 0°C ~ 50°C
- U Storage temperature: -20°C ~ 80°C
- U Humidity: 5% RH ~ 85% RH

Mechanical Specification (Unit = mm [inch])



Applications

- U Electronic assembly and measurement equipments
- U Semiconductor and LCD manufacturing & measurement equipments
- U Laser cutting/engraving/marketing equipments
- U Vision & measurement automation equipments
- U Biotech sampling and handing devices
- U Robotics
- U Special CNC machines