

# PROGRAMMABLE STEPPER MOTOR DRIVE/INDEXER INCLUDES WINDOWS BASED SOFTWARE



**SMD5580CSi**  
Programmable Step Motor Drive

## Features:

- Si Command Language (SCL) or SiNet Hub programming languages included with drive
- AC input 110V or 220V switch selectable, 50-60 Hz
- DC bus voltage 75 VDC full load, 80 VDC nominal
- Software selectable motor current from 0.5-5.5 amps/phase
- Software selectable motor resolution from 2,000 to 50,800 steps per revolution
- Software selectable idle current reduction, 0, 25%, 50% or 100%
- Eight optically isolated programmable inputs 5-24 VDC, 2,200 ohms internal resistance. Can be configured for sinking (NPN) or sourcing (PNP) signals.
- Three optically isolated programmable outputs 12-24 VDC, 100mA maximum
- One optically isolated output 5 VDC dedicated to fault out
- RS-232 for PC/MMI communications
- 440 watts of usable power
- Screw terminal connectors
- Dual, MOSFET H-bridge, 3 state, pulse width modulated amplifier switching at 20-30 KHz
- Ideal for 4, 6 or 8 leaded step motors NEMA sizes 11, 14, 17 and 23
- Optional Man Machine Interface (MMI) allows machine operator to enter specific motion parameters
- CE and TUV compliant

## Description

The SMD5580CSi is a programmable stepper drive/indexer packaged in a rugged steel case printed black with white epoxy silkscreen. Integral heat sink, mounting brackets, switch covers and connectors are included with each SMD3540Si. The drive/indexer has been matched with twelve recommended NEMA 23 & 24 motors and comes with all operating software necessary to create a complete stepper motion solution.

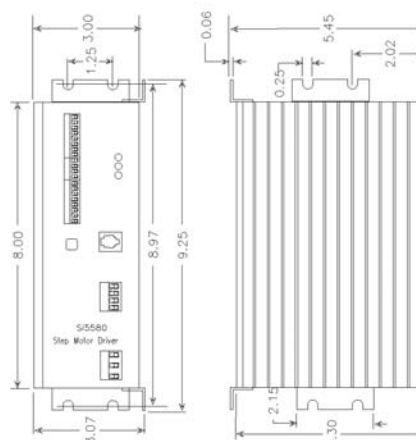
The SMD5580CSi includes Windows based software for quick set up and ease of use. Ideal for stand-alone operation. For more experienced users, with software development expertise, also comes with Si Command Language (SCL) programming instruction set. SCL allows for control of the drive from a host PC or PLC thus permitting the user to perform a variety of motion, I/O tasks and system status retrieval via the host.

Multiple axis applications are handled by our Hub Programmer, which gives you the ability to control up to 8 Si drives, either stepper or servo on the same hub. Not only can you coordinate up to eight motors, the hub also has access to the inputs and outputs of all the drives, providing your program with up to 64 inputs and 24 outputs. You can also use MMI to interface the drives with the machine operator.

Factory set to operate at 110-volt input; the drive can be set by the user to operate at 220-volt input by a simple switch selection.

Pluggable screw terminal blocks are provided for the I/O, motor and AC power input. Mating connectors, programming cable with computer interface connector as well as all operating software are provided with each drive.

The SMD5580CSi is both CE and TUV compliant



**SMD5580CSi**

• Motors are sold separately. See pages J11-J12.

## SMD5580CSi Technical Specifications

Power and Amplifier:

**Amplifier Type** - MOSFET, dual H-Bridge

**Current Control** - 3 State, pulse width, modulated switching at 20-30 KHz

**Output Current** - 0.5-5.5 amps, software selectable

**Power Supply** - Linear, toroidal transformer based for high reliability and low noise. 110 or 220 VAC input, switch selectable. 50/60 Hz.

**DC Bus Voltage** - DC voltage at nominal line voltage: 75 VDC full load, 90 VDC no load.

**AC Input Voltage** - 110 or 220 VAC (switch selectable) 50/60 Hz.

**Max. Output Power** - 440 Watts.

**Idle Current Reduction** - 0%, 25%, 50% or 100% software selectable.

**Motor Resolution** - 13 resolutions Steps per revolution with 1.8° motor: 2000, 5000, 10000, 12800, 18000, 20000, 21600, 25000, 25400, 25600, 36000, 50000, 50800 software selectable.

**Status LED's** - AC power (red).

Over Temperature (yellow)

Over Current (yellow)

## Controller Selection:

**Serial Communication** - RS-232 programming port

**Inputs** - 8 user programmable inputs. Can be used for triggering, sensing, homing, branching, jogging or limits. 5-24 VDC optically isolated

**Outputs** - 3 general purpose, optically isolated 12-24 VDC outputs for interfacing to other equipment. Open collector and emitter 100mA max.

**Parameter Ranges** - *Distance*: 1 to 16,000,000 steps. *Speed*: .025 to 50 revolutions per second (in any microstep resolution). *Acceleration*: 1 to 3,000 rev/sec/sec.

*Deceleration*: 1 to 3,000 rev/sec/sec (set independently from acceleration). *Time Delays*: 0.01 to 300 seconds. *Output Pulse Widths*: 2 to 500 milliseconds. *Iterations per repeat loop*: 1 to 65,535.

**Optional Operator Interface (MMI)** - NEMA 4/12 rated (splash proof and dust proof). 4 x 20 characters liquid crystal display (LCD), standard or backlit. 20 key membrane keypad. Overall size: 4.9 x 4.9 x 1.42 inches.

## System Specifications:

**Overall Size** - 3.0 x 5.3 x 8.0 inches.

**Chassis Material** - Aluminum, black anodized with integral heat sink.

**Weight** - 7.8 lbs.

**Ambient Temperature** - 0° to 50° C (32° to 122° F)

**Humidity** - Maximum of 90% non-condensing

**Connectors** - Screw terminal connectors for input power and motor, and I/O signals.

**Motors** - Can drive 4, 6 or 8 lead motors. NEMA sizes 11, 14, 17, 23 & 34.

**Case** - Steel with black paint and white epoxy silk screen. Includes switch covers.

**Agency Approval** - CE and TUV.