



STEP/PAK®

Science In Motion...

System Features

Designed for Low Noise Generation

Drives up to 8 Stepping Motors of 0.50 to 6.00 Amps/Phase

8-Axis Control by ACS SPI-8 Modular Indexer

or, control by External Indexer with Interface Module

Standard 19" Rack Mount

Driver Modules Powered from 48VAC Isolation Transformer

Advanced Control Systems Corporation

35 Corporate Park Drive
Pembroke Massachusetts 02359
USA

TEL: 781-829-9228
FAX: 781-829-9875

www.ACSMotion.com



The *Step-Pak* Modular Motion Control System is designed for the drive and control of up to 8 (eight) stepping motors. Well suited for control scenarios using different sizes and types of stepping motors in the same application, the Step-Pak System provides Scientists with flexibility and scalability.

The *Step-Pak* **SPI-8** is an 8-Channel Indexer Module that plugs into the Step-Pak System Rack and provides step and direction output for up to 8 Step-Pak Motor Driver Modules. Home, Limit+ and Limit- inputs are available for each channel. Additionally the SPI-8 supports eight status inputs and eight control outputs via front panel connectors. Communications with the host computer is via RS-232 or RS-485 communications ports.



Find driver support for the SPI-8 Indexer in Certified Scientific Software's **spec** X-Ray Diffraction and Data Acquisition software



The *Step-Pak* **SPC-3 Interface Module** provides eight front panel connectors for connection to an external indexer/controller. The SPC-3 also provides differential receivers on step and direction inputs for all eight channels.



The *Step-Pak* **SPC-4 Interface Module** provides eight RJ-45 front panel connectors for the connection of an external eight channel indexer or controller. The SPC-4 facilitates system wiring through the use of standard cables

SPD-6B 6Amp/Phase

Bi-Polar Stepping Motor Driver Module

The Step-Pak **SPD-6B Stepping Motor Driver** is a high efficiency, high performance motor driver. The proprietary bi-polar, bi-level design provides absolutely minimum motor and driver losses which result in cool running motors and drivers, enabling high density packaging of equipment. Low DC voltage is applied to the motor windings when the motor is positioned. High voltage is applied synchronously with motor steps for fast acceleration and high running torque. Most of the switching losses inherent in chopper type drives is eliminated resulting in cooler running motors. The bi-level motor drive produces very low levels of radiated electrical noise which is critical during scientific data collection. When the motor is held at position, no currents are interrupted, therefore there are no radiated electromagnetic fields to interfere with measurements.



SPD-6U 6Amp/Phase

Uni-Polar Stepping Motor Driver Module

The Step-Pak **SPD-6U Stepping Motor Driver** is a high efficiency, high performance motor driver. The proprietary uni-polar, bi-level design provides absolutely minimum motor and driver losses which result in cool running motors and drivers, enabling high density packaging of equipment. Low DC voltage is applied to the motor windings when the motor is positioned. High voltage is applied synchronously with motor steps for fast acceleration and high running torque. Most of the switching losses inherent in chopper type drives is eliminated resulting in cooler running motors. The bi-level motor drive produces very low levels of radiated electrical noise which is critical during scientific data collection. When the motor is held at position, no currents are interrupted, therefore there are no radiated electromagnetic fields to interfere with measurements.



SPD-32M 3Amp/Phase

Bi-Polar Stepping Motor Driver Module

The Step-Pak **SPD-32M Stepping Motor Driver** is a bi-polar, chopper type driver with ministepping capability. The **SPD-32M's** resolution is up to 8 mini-steps per full motor step. The two-phase, bi-level design is highly efficient and promotes cool running of motors and drivers, enabling high density packaging of equipment. Motor windings are compared to preset values. When motor current reaches the preset value, it is turned off and starts decaying to a preset low value when it is turned on again. When the motor is held in position, some switching electrical noise is generated



SPD-5F 6Amp/Phase - 5 Phase

Uni-Polar Stepping Motor Driver Module

The Step-Pak **SPD-5F Stepping Motor Driver** is a high efficiency, high performance motor driver. The **SPD-5F** can drive any 3 and 4 phase or 10-Lead 5 phase motors. The proprietary uni-polar, bi-level design provides absolutely minimum motor and driver losses which result in cool running motors and drivers, enabling high density packaging of equipment. Low DC voltage is applied to the motor windings when the motor is positioned. High voltage is applied synchronously with motor steps for fast acceleration and high running torque. Most of the switching losses inherent in chopper type drives is eliminated resulting in cooler running motors. The bi-level motor drive produces very low levels of radiated electrical noise which is critical during scientific data collection. When the motor is held at position, no currents are interrupted, therefore there are no radiated electromagnetic fields to interfere with measurements



SPD-35 3Amp/Phase - 5 Phase

Bi-Polar Stepping Motor Driver Module

The Step-Pak **SPD-35 Stepping Motor Driver** is a high efficiency, high performance stepping motor driver. The **SPD-35** can drive any 3 and 4 phase or 5 and 10-Lead 5 phase motors. The proprietary bi-polar, chopper design provides absolutely minimum motor and driver losses which result in cool running motors and drivers, enabling high density packaging of electronic equipment. Full and Half step resolutions on this bi-polar module allow the full power and range of pentagon type 5-phase motors.



SPT-9 Step-Pak System Rack

48.2cm W x 17.78cm H 40.64cm D System Rack

The Step-Pak **SPT-9 System Rack** handles up to 8 Step-Pak Driver Modules and the SPI-8 Indexer or an SPC Interface card for connection to an external controller. The modular design allows for different types of motors to be controlled from a single rack.



SPT-8R Power Supply

115/230 VAC Rack Transformer

The Step-Pak **SPT-8R Isolation Transformer** provides 48VAC power to the fully populated system rack.

