

IDC S6002

2-Axis Microstepping Drive



Your **definitive** source
for quality pre-owned
equipment.

Artisan Technology Group

(217) 352-9330 | sales@artisanng.com | artisanng.com



© Artisan Technology Group

In Stock

Used and in Excellent Condition

Open Web Page

<https://www.artisanng.com/48350-1>

All trademarks, brandnames, and brands appearing herein are the property of their respective owners.

- Critical and expedited services
- In stock / Ready-to-ship
- We buy your excess, underutilized, and idle equipment
- Full-service, independent repair center

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

Overview



The S6002 is a two-axis microstepping drive which incorporates the latest breakthroughs in microstepping technology to provide the user with superior step motor/drive performance. This drive accepts either differential step and direction or clockwise/counterclockwise control signals, and can interface with controls from IDC or other suppliers. All S6000 Series products contain microstepping drives capable of resolutions up to 25,400 steps per revolution.

Our drives have been carefully engineered for exceptional reliability, dynamic performance and repeatability. An extremely efficient isolated switchmode power amplifier means greater power density and less electrical noise than other drives.

Anti-Resonance Circuitry

Many step motor users are familiar with mid-range instability, or resonance, which under some conditions can cause a step motor to stall between 13 and 18 rps. Microstepping technology alone does not address mid-range instability. However, our S6000 drives use anti-resonance circuitry to virtually eliminate it.

Protection and Diagnostics

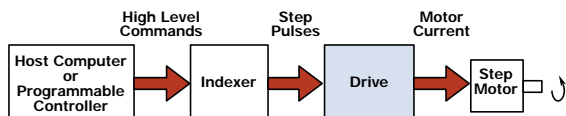
LEDs indicate when power is on, step inputs are received, and when a fault condition exists. Internal circuitry protects against damage caused by a mis-wired or damaged motor (short circuit protection), as well as allowing considerable regenerative energy to be dissipated.

Features

- Anti-Resonance circuitry.
- 120 VAC power input.
- Step and Direction or CW/CCW inputs.
- Short circuit protected (phase to phase and phase to ground).
- Brownout and overtemperature protected.
- Isolated switchmode power amp.
- Optically isolated I/O.
- LED status indicators.
- Built-in and external re-gen power dump.
- 2.5" x 9" footprint, 5.84" deep.

Benefits

- Significantly reduces chance of stalling.
- Convenient power, no external transformer required.
- Works with popular stepper controls.
- Prevents failure due to mis-wired, or damaged motors.
- Less concern for unpredictable extremes.
- Highly efficient, lower electrical noise than other drives.
- Excellent noise immunity.
- Simple troubleshooting.
- Protects system, allows extreme inertial loads when you need it.
- Compact. Same size for single or two-axis drive.



Compatible Mechanics:
EC2-S, EC3-S, EC4-S, EC5-S
NV-S, N2-S, R2A-S, R3-S, R4-S
Positioning Tables



Specifications

S6002
Microstepping
Drive

Step Motor
Systems

Power Input

105-132 VAC Single Phase, 50/60 Hz
1000 VA max @ 6 Amp setting

Motor Output

Current

0.1 to 6.0 Amp, in 0.1 Amp increments (rotary switch selectable)

Voltage

160 VDC Bus Voltage

Resolution

Switch selectable: 200; 400; 1000; 5000; 10,000; 18,000; 25,000; 25,400

Motor Compatibility

Type

2 phase, hybrid permanent magnet, 0.9°, 1.8°, or 7.2° full step

Inductance

2 mH to 60 mH per phase (rotary switch selectable)

Amplifier

Protection

Short Circuit

Amp disabled if phase-to-phase or phase-to-ground short detected.

Brownout

Amp disabled if supply drops below 90 VAC

Over-temperature

Amp disabled if heat sink temperature exceeds 65°C

Standby

Switch selectable. Reduces motor current to 75% of preset value if no step pulses are received for 1 second. Rated current levels resume upon receipt of next step pulse. Reduces motor heating.

Waveform

Switch selectable. Configures the shape of the current waveform. Optimize smoothness and step-to-step accuracy.

Command Interface

Inputs

Step, Direction and Shutdown are Optically Isolated

6.5 mA min, 15 mA max. Step and direction can be configured as CW/CCW step inputs through switch selection.

Step

400 nsec min. width, 1.25 MHz max pulse rate, triggered on rising edge

Direction

Logic High = CW rotation, Low = CCW rotation, 0.4 µs set-up time required after direction change before next step pulse

Shutdown

Logic High = amp disabled, Low = normal operation

Fault Output

Optically isolated NPN, Collector (Fault+) and Emitter (Fault-) connections available. Output Off = drive not faulted; Output On = drive faulted

Environmental

Operating Temperature

Thermal shutdown occurs if heat-sink temperature exceeds 65°C (149°F). Heat-sink temperature is a function of motor current, motor regen, and ambient temperature. Severe applications may require -FK1 fan kit option. Most applications will not require the -FK1 if the *total* motor current is less than 6 amps (sum the current setting for the two drives). See page G-44 for more information.

Storage Temperature

-40°C to 80°C (-40°F to 176°F)

Humidity

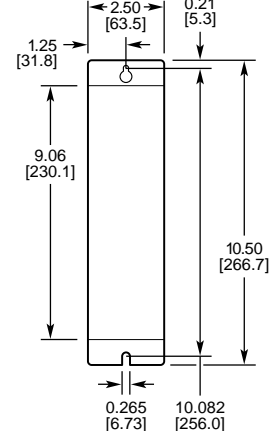
0% to 90% non-condensing

S6002 Mounting Dimensions

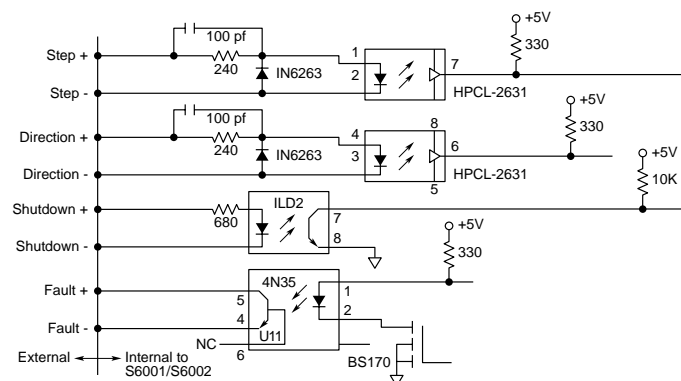
Side View in [mm]



Front View in [mm]

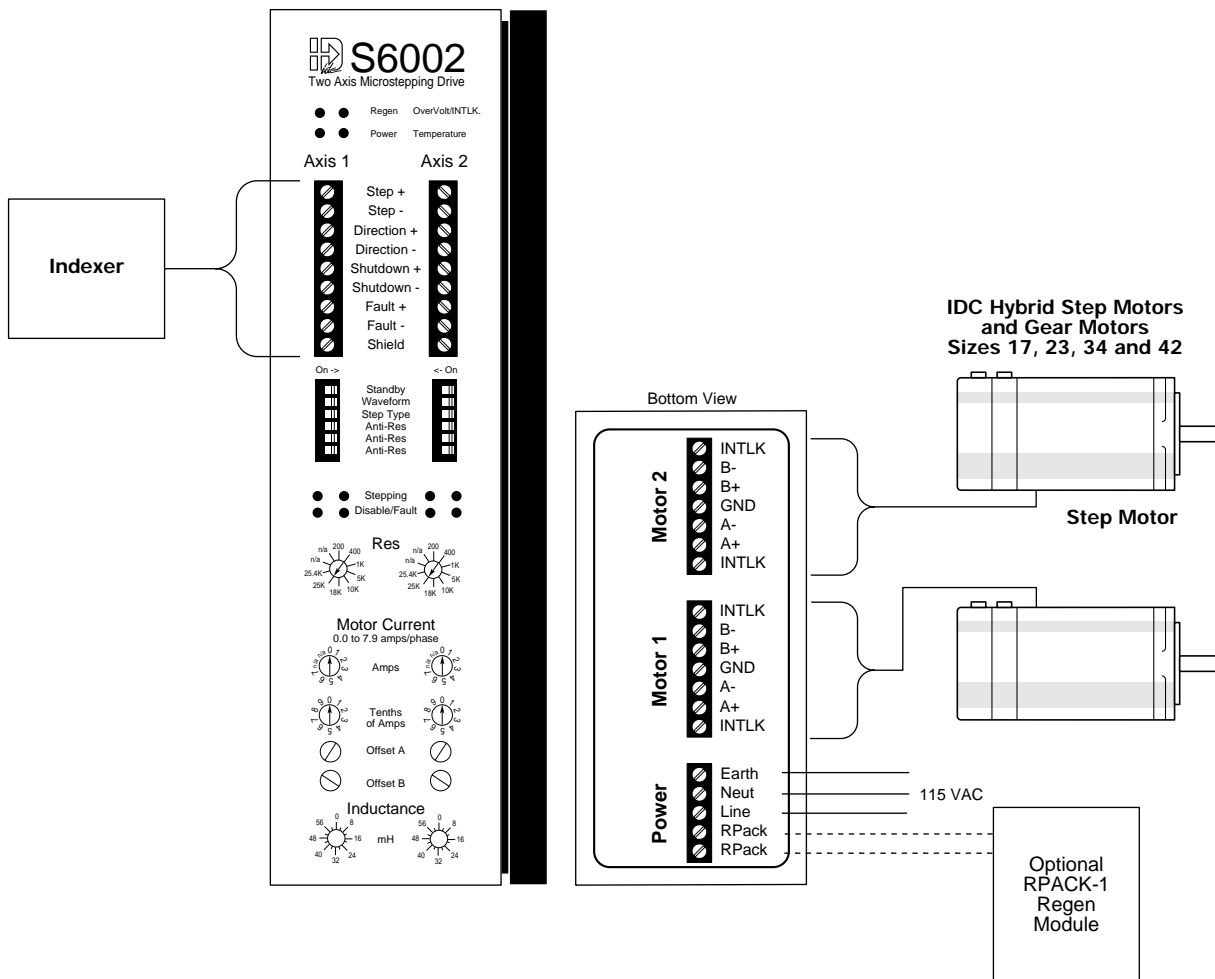


Step Motor Systems





System Configuration



How To Order

Model	Description	Options	Description
S6002	2-axis, 6 amp/axis microstepping drive	-FK1 Fan Kit	When exceeding 6 Amps total current setting (sum of axis 1 and axis 2 current setting). See page G-37.
Accessories			
RPACK-1	External regenerative power dissipation module. Only for exceptionally large inertial and/or vertical loads with ballscrew actuators. See page G-39.		



To confirm your selection, review the checklist on page G-6.

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at [artisan^{tg}.com](https://www.artisantg.com) for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisan^{tg}.com | [artisan^{tg}.com](https://www.artisantg.com)

